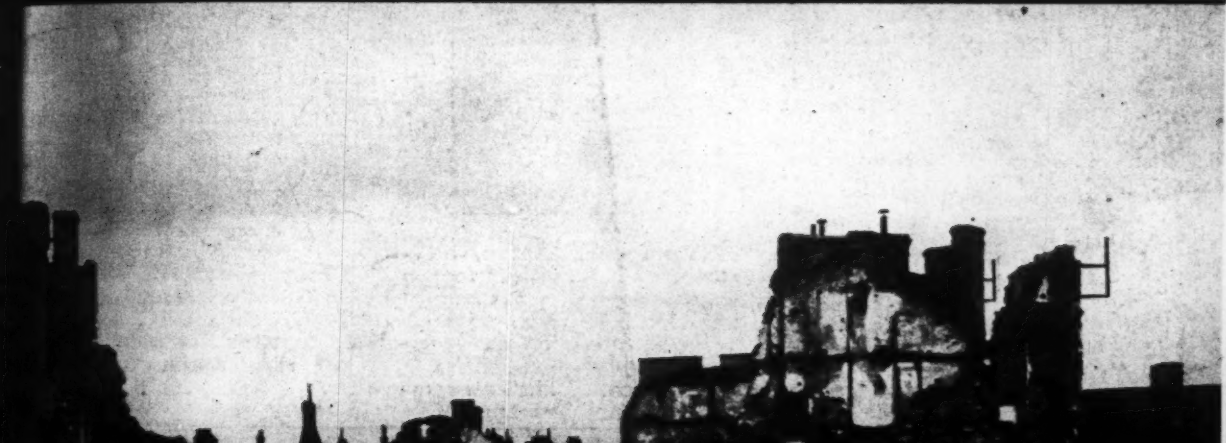
ENGINEERING NEWS-RECORD

Combat Engineers in St. Lo clear debris and mines from path of 3rd Army.



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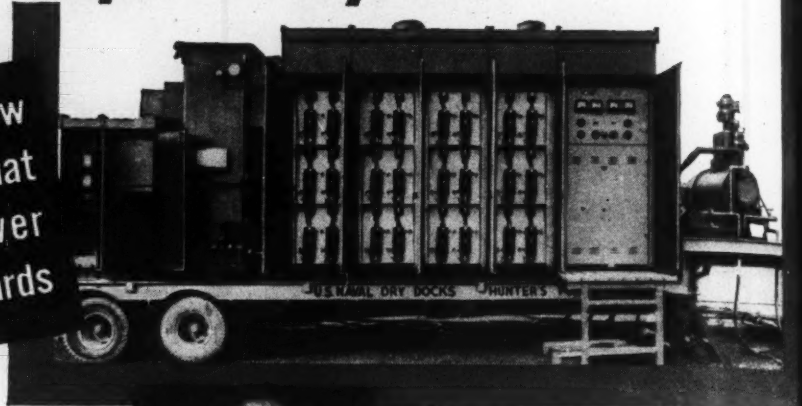
Putting D-c on Wheels for Ships in Drydock

The story of a new portable rectifier that brings d-c power to ships in a-c yards



by C. P. Hamilton
Industrial Engineering Division
General Electric Company

Under the stimulus of war requirements, several new types of portable power units have been developed. It is very probable that this equipment will find a wide application in the construction industry. Here's a unit developed recently for the Navy.

ONE of the expensive obstacles to servicing ships in drydock has been the lack of d-c power *where it was needed*. Because ships under repair cannot furnish their own d-c power, and most shipyards use only a-c, the problem became acute early in the war when an increasingly large number of ships had to be serviced quickly —and at the same time.

Conversion at a centrally located point meant using miles of heavy copper conductors, and many large receptacles. The excessive use of scarce material and man power made this economically inadvisable.

The solution of this problem is a portable rectifier that can be moved close to where d-c power is needed. Mounted on a trailer, the entire equipment weighs 20 tons. In the installation shown here, the deck is 25 feet long by 8 feet wide. Additional area on the gooseneck provides space for part of the cooling system, and for storing cable, hose, platform, and steps when moving the rectifier to new locations. Screw jacks are provided to support and level the gooseneck end.

The rectifier illustrated above has served several famous ships. It converts 500 kw a-c to d-c by means of sealed ignitrons. As shown in the picture, component parts (from left to right) are:

Incoming line compartment
Circuit breaker
Control transformer compartment
Forced Pyranol-cooled transformer
Rectifier units mounting ignitrons
Direct-current control unit with electrically operated air circuit breaker
Two heat exchangers, one for the rectifier cooling water, and the other for the transformer Pyranol.

Equipment Features

1. The rectifiers and transformers are water cooled—in this dock installation, salt water is delivered to the heat exchangers by the dock pumps. The distilled water from the rectifier is circulated through its heat exchanger by its own vertical circulating pump.
2. Entire equipment is salt-air and corrosion resistant.
3. A special disconnecting device is used to attach incoming a-c line cable to the compartment on the left. Cables from the d-c distribution section at right are bolted from below directly to the bus bars in the d-c cubicle. (Bus bars are provided also for parallel connections.) These provisions make it possible to move the rectifiers from one location to another with little loss of time.

In developing this portable unit for shipyards, G.E. has also made another contribution to the construction industry. Mobile units for generating and distributing electric power will be needed to capitalize the great advantages of electrified construction machines. G.E. has developed such mobile units—a-c and d-c—which will safely speed construction work by providing electric power wherever it is needed. General Electric Co., Schenectady 5, New York.

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he Week In Engineering and Construction

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uilding supplies plentiful fter defeat of Germany

ept for lumber WPB hopes to remove almost all trictions on production and distribution of construc- equipment and materials

are rapidly being completed removal, when Germany is de- of the major portion of the War tion Board controls on the manu- and distribution of construction ls and equipment. This means anufacturers can use for cviilian ction all plants, manpower, and ls not needed in the war against The expected result is to make le at an early date a plentiful of almost all building supplies lumber.

Construction volume to rise

lifting of controls is seen by gov- nt agencies to be so effective that onstruction volume during the ear after the European war ends e restricted not by the lack of uction machinery and materials, y the small amount of postwar now completed or in the blueprint and by the present disorganized ion of contractor organizations. t, some WPB representatives set maximum possible construction e during the first year as high as billion dollars, provided that the lt problem of reducing the large rtion of lumber supplies now be- ed for war purposes is overcome e saving utilized by the construc- industry. The expected total is much lower, although a volume first twelve months of over five dollars of work would not neces- be a surprise.

sons for the favorable picture as supply of construction materials ding fabricated products, are: (1) ll production of military supplies, has been taking 90 percent of materials, is expected to be re- by 40 percent when Germany is ome, according to J. A. Krug, act- PB chairman; (2) many building lies are now in sufficient quantity and are expected to be more abundant in the next few weeks, even if the war in Europe continue longer than now expected; (3) based on the speed with which the switch to war production was made, the conversion back to peacetime work will not be too severe in most factories; (4) many plants will need to make no changeover; and (5) a very noticeable improvement in the manpower available for the production of building supplies is expected with Germany's defeat.

The major improvement in the manpower picture for the manufacturing industry is expected from two causes. First, the 40 percent reduction of war production will free over 4,000,000 workers for other work, and most of these employees will want to continue in some type of manufacturing, which should increase greatly the output of building materials for civilian use. Secondly, the possible reduction in the military personnel once Germany is defeated is estimated at 2,000,000 or more men, and although these men are not to return to private life as rapidly as most people expect, their release should make available still more manpower for manufacturing, plus a large amount for construction.

The outlook for sufficient construction equipment to be available to meet most immediate demands is nearly as bright as that for materials. Some of the reasons for this optimistic view are included in those outlined in the favorable picture in regard to materials. In addition, it is pointed out that, (1) most equipment manufacturers will continue to produce the same units now turned out; (2) many equipment producers have greatly increased their production capacities, some as much as ten-fold; (3) many repair parts are becoming more plentiful each week; (4) surpluses of some types of used equipment are now developing; (5) considerable

(*Continued on page* 9)

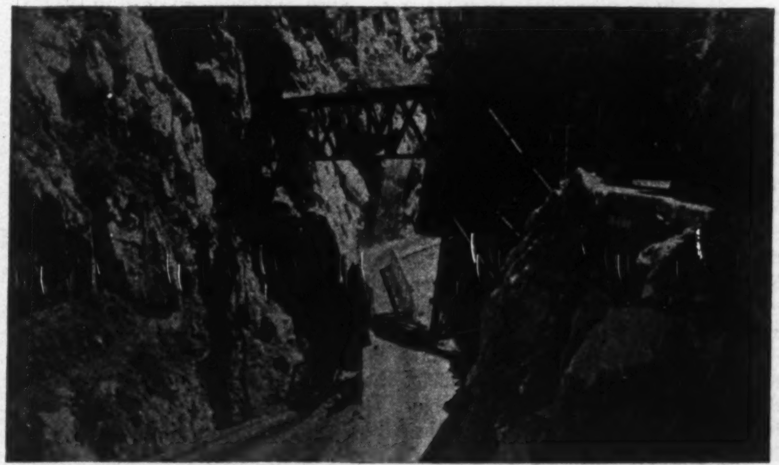

Photo by Imperial Oil, Ltd., courtesy of PRA

A Peruvian highway meets itself coming back

Not a clover-leaf intersection, but a railroad bridge and three levels of the same winding roadway in the narrow gorge called "Infiernillo" on the Central Highway of Peru. This important link in the recently completed Pacific to Amazon Highway (ENR, Aug. 24, vol. p. 222) here crosses itself twice by bridge in its climb from 512 ft. above sea level at Lima to the 15,889-ft. elevation of Anticona Pass. The resulting figure-8 loop is probably the only one of its kind in the Americas.

Earthquake damage at Cornwall, Ont. is extensive but of minor kind

One of the heaviest shocks ever recorded in the northwest tumbled copings and chimneys and did some damage to nearly every building

By Robert F. Legget
ENR Correspondent, Toronto, Ont.

Damage estimated at almost one million dollars was caused in the small Ontario town of Cornwall by the severe earthquake shock which was so widely felt in the northeastern part of the continent in the very early morning of Tuesday, Sept. 5. Practically every one of the town's 3,081 homes and buildings was damaged, although only a few to a very serious extent. Some of the major damage occurred at schools which were due to open after the summer vacation at 9 o'clock on the morning of the quake. Although the shock was severe throughout the Montreal-Ottawa-Toronto area, damage of any note seems to have been restricted to the immediate vicinity of Cornwall, except for some damage to the spire of St. Paul's Presbyterian Church in Hamilton, Ont., from which a large block of masonry fell 180 ft. to the ground.

Soil is sedimentary

Cornwall is a town of about 15,000 population, about 70 miles west of Montreal and 280 miles east of Toronto. It is situated almost at the eastern end of the international section of St. Lawrence River. Geologically, it is somewhat removed from the stretch of pre-Cambrian rocks that cross the St. Lawrence in the vicinity of the Thousand Islands, being located above an Ordovician formation, but founded on overlying sediments, chiefly sandy in nature. Clay is also found and in view of the proximity to the river, the groundwater level is high, resulting in what are locally called "poor" foundation conditions. Settlements of some of the larger buildings are quite noticeable, and one or two churches have had to be left in an uncompleted state because of the excessive loads caused by the ornamental towers and steeples included in their designs. The worst earthquake damage is centered around an area reputed by local builders to have specially poor foundation conditions, "quicksand" being the local description given to the sub-soil in this area. Unfortunately, no definite check on the soil profile at this location could be made during the writer's visit.

Chimneys and old buildings

The town contains many old buildings, most of them of brick construction, and it is in these buildings that the most serious damage has occurred with the exception of the large school buildings. Brickwork has suffered particularly in chimney construction. It would appear that almost 90 percent of the town's chimney stacks have been either demolished or cracked. Some stacks were fractured on a horizontal plane and then rotated through about 45 deg. This strangely uniform rotation appears to coincide with the deduced position of the epicenter of the 'quake, about 18 miles northwest of the town, and so 60 miles southeast of Ottawa.

In the outskirts of the town are several large industrial plants having unusually high brick chimney stacks. Examination of some of these has revealed serious cracking, and in one case, loosening of the concrete coping ring; major repairs are contemplated for these tall structures. The industrial plants themselves appear to have suffered little damage, apart from the usual cracks. Major city services were not interfered with (even though a short electrical shut-down was caused in Toronto) but many individual water connections to private houses are said to have been broken.

Several old brick bearing-wall type buildings were severely damaged by cracking and resulting movements of walls. The sixty-year-old 3-story Orange Block on the town's main street developed a bulge of several inches in its main wall, which was temporarily tied back by chains and cables to the back wall pending complete inspection. The County Court House suffered similarly, bulges in these and all other cases noted being outward. One building only had to be immediately abandoned,
this being a double dwelling house
brick construction. The house
peared to have been built with
close walls each of single brick thi
ness, with no headers connecting
two. In consequence, the outer
had been almost completely dislod
and the inner wall had consequen
bulged to such an extent that only
use of heavy timbering was keeping
house from complete collapse. Ot
old brick houses were badly crack
cracks usually started at windows
doorways, exhibiting in many cases
tersecting double sets of cracks e
at 45 degs. to the horizontal. St
houses suffered to some extent al
but chiefly with chimney stack collap
One of the town's largest buildings,
6-story reinforced concrete frame ho
founded on a spread foundation m
showed a good deal of minor cracki
between frame members and in the pl
ter on ceilings and curtain walls.

New copings thrown down

Falling plaster caused much min
damage and a great deal of inconve
ience. In the large Roman Catho
church, much decorated plaster h
fallen from the walls, and from t
artificially built-up fluted columns.
the older sections of school buildin
large areas of plaster had fallen fro
ceilings and walls, especially on t
upper floors. Almost all the scho
buildings also suffered by the collap
of parts of the coping walls built
surround the flat roofs of the new
types of school construction. Strange
the worst cases of this coping troub
were in the more recently built parts
the schools, the most serious of all bei
in a newly built section of the fine hi
school.

A large section of single brick copi
wall here fell from a height of thr
stories onto the thin timber roof of
gymnasium, crashing through to t
floor and carrying a large part of t
roof with it. This whole part of t
school will have to be rebuilt, estimat
of cost varying up to $50,000.

The latest section of this large buil
ing has a structural steel frame, t
columns of which have been encased
hollow tile plaster-covered pilaste
Many of these have broken away fro
the adjacent walls, one of the pil
ters collapsing on to a classroom flo
revealing no connection between it a
the column or curtain wall other th
that provided by plaster. The ste

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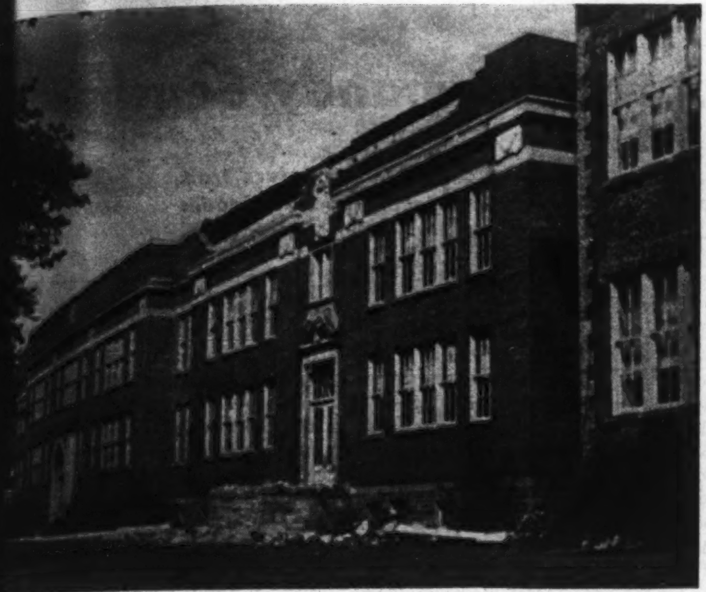


ing of parapet walls on the facade of the Cornwall high school was thrown s across the front entrance by the earthquake. This is a new building.

nework, however, was declared to be
cturally sound and safe, after exam-
ion by Architect Chester C. Wood of
onto. Many instances were noted of
placed coping stones, and corre-
nding damage to decorative stone-
k placed near roof level in the taller
ldings.

t Cornwall are located the last set
locks of the Cornwall Canal of the
Lawrence system, together with
essary swing bridges and many struc-
es in connection with the canal main-
ance work. No damage was caused
the canal system, according to H. J.
ra the superintending engineer for
tario St. Lawrence Canals at Corn-
ll, if a few small cracks to the plaster
the administration building be ex-
pted. Correspondingly, no damage
s noted to the Roosevelt railroad and
hway bridge over the St. Lawrence,
t east of the town boundary.

Much of the one million dollars, re-
rted as the value of the damage done,
made up of minor items, of which
oken chimney stacks will be by far
most frequent item. Plate glass win-
ws will rank a good second. Damage
store goods was also considerable
ce the violence of the movement dis-
ced most movable things in the town,
s emptying store shelves of all small
jects.

Local contractors were organized by
yor Aaron Horovitz and repairs were
n put in hand. Permission was ob-
ned from Ottawa, from the Depart-
nt of Munitions and Supply, to pro-
ed with repair work without the usu-
y required building permits. The
eral Department of Labor gave every assistance with regard to priority of labor, and assistance was also received with regard to the supply of building materials.

• • •

Pump priorities solve Cleveland water problem

The pumping capacity of the Cleveland, Ohio, water system will be increased 160,000,000 gal. a day before next year's hot weather arrives, Mayor Frank J. Lausche announced Sept. 7.

Following a conference with Arthur E. Gorman and Frederick Weed of Washington, representing the War Production Board office of war utilities, the mayor disclosed that priorities had been obtained for six electrically-driven pumps.

These, he said, would be purchased by the first of next month and installed "prior to next June 1." The equipment will cost the city about $750,000.

The Division Avenue pumping station, whose limited capacity was mainly responsible for water rationing last summer, will get two 40,000,000-gal.-a-day electric pumps similar to two recently purchased for it.

◆

Plans for 47 postwar highway and 68 bridge projects, totaling $23,051,300, were received from highway districts by the California Division of Highways in one month recently. Construction costs of highway projects were estimated at $15,981,000.

Northwest unions oppose Bonneville labor policy

Objections to Bonneville Power Administration's use of maintenance employes on new construction work and to its wage policy have been registered by building and construction trades councils of Oregon and Washington, who met recently in Portland.

Resolutions demanding that all new construction work on Bonneville and Grand Coulee projects be done by private contracts were adopted at the meeting by union leaders, who contended the Bonneville administration does not maintain conditions of employment comparable to those of private contractors. Bonneville employes are not covered by unemployment compensation protection or social security.

A wage schedule proposed by the Bonneville administration also was objected to on the ground that it was not the result of collective bargaining.

In responding to these demands, Paul J. Raver, head of the administration, announced that his office will recommend changes in the Bonneville Act to permit the administration entering into a collective bargaining agreement with organized labor. Mr. Raver said that "the present situation was brought about by limitations which we ourselves are endeavoring to overcome".

• • •

Canadian used equipment regulations eased

Canadian distributors of used construction equipment, and contractors owning equipment, are no longer required to register their holdings of used equipment with the Wartime Prices and Trade Board, except for a few types of equipment still in short supply, according to a new order issued by the Board. The types of equipment still to be registered are as follows: Power shovels, draglines, backhoes, self-propelled motor-graders, and crawler or track laying tractors including tractor mounted equipment. Distributors and contractors have still to report to the Administrator of Farm and Construction Machinery (the relevant official of the W.P.T.B.) when any equipment of the types noted becomes idle, is put to work again, or becomes so worn out or damaged that it is unusable. Relaxation of the controls is reported to be due to the reduced demand for construction machinery on essential war projects. Sale, lease and rental of types in critical demand continue to be under permit, and the control of selling prices and rental rates for all used equipment is still in force.

Engineers on the Normandy Beaches

Brig. Gen. Don Shingler and Col. Paul Thompson return from France with high praise for men of Engineer Special Brigades who kept the beaches open and supplies rolling across them.

At a press conference and in a radio talk recently, two Engineer officers who played prominent roles in the Normandy invasion described some of the Engineer activities of this great military operation. One officer was Brig. Gen. Don G. Shingler, who was Chief of the Amphibious Section of the U. S. First Army, and the other was Col. Paul W. Thompson, commander of one of the three Engineer Special Brigades of the Amphibious Section which took part in the invasion. One of the other brigades was commanded by Col. Eugene M. Caffeg and the third by a brigadier general whose name is still on the restricted list.

General Shingler, it will be recalled (*ENR* April 20, 1944 vol. p. 531), was in Iran from Feburary, 1942, to October, 1943, during which time he was responsible for constructing the highway from the Persian Gulf to Russia, for reconstructing the Trans-Iranian Railroad to handle the new heavy volume of traffic and for constructing the docks and assembly plants at Khorramshahr, Iran. Later he was chief of the Motor Transport Service there. To these important accomplishments, he has now added another—establishment and operation of the Normandy beaches.

Gen. Shingler

Col. Thompson's last pre-Normandy assignment (*ENR* Jan. 20, 1944, vol. p. 69), had been to build and command the U. S. Assault Training Center in England where the beach attack technique for the invasion was perfected. It was fitting that he should move from that to command of one of the principal invasion units, the one, in fact, that drew the toughest beach, that on the left or flank east of the American forces.

Harris & Ewing

Col. Thompson

For his actions on D-day, Col. Thompson received the Distinguished Service Cross, accompanied by the following citation—"For extraordinary heroism in action against the enemy on 6 June 1944, in France. The attack on a vital beach exit was being held up by heavy enemy machine gun fire. Upon discovering the situation and ascertaining that the assault units were pinned to the beach and were not pressing the attack, Col. Thompson called for volunteers to assist in wiping out the machine guns. Several infantrymen volunteered. With complete disregard for his own safety, Col. Thompson, while under heavy fire, blew a gap in the wire entanglement. He then fearlessly led his party through the gap and was rushing to assault the enemy machine guns when he was seriously wounded by enemy fire from another emplacement. The inspiring leadership and personal bravery displayed by Col. Thompson reflects great credit on himself and is in keeping with the highest traditions of the Armed Forces." Now practically recovered from his wounds, Col. Thompson is back in the United States, assigned to the Operations Division of the War Department General Staff.

Shingler tells of beach operations

Inasmuch as General Shingler's press conference statement is the most explicit yet made with respect to the Engineers' role on the Normandy beaches, it follows practically in full.

"Across the beaches of northern France," he said, "Engineer Special Brigades of the Army Service Forces have moved each day a tonnage of supplies almost equal to the prewar average daily imports of Philadelphia and Baltimore combined. The success of such beach operations is no accident. It had its genesis in the spring and summer of 1942, when Japanese amphibious operations had driven us and our allies from one position after another in the Pacific. The establishment of the Engineer Amphibian Command at Camp Edwards, Massachusetts, to devise our amphibian doctrine and to train troops in its application, was the first step onto Normandy, just as it was the first step on the road back to Manila. The lessons learned by the Amphibian Engineers off Cape Cod, and at Camp Gordo Johnston in Florida paid off in Nort Africa in November, 1942, in Sicily an again at Salerno in 1943. These lesso have paid off in the Pacific at Nassa Bay, Lae, Arawe, and Hollandia. In a of these operations, Engineer Speci Brigades have participated."

Special Brigades did the work

To three Engineer Special Brigade and their attached Service Force unit must go the major share of the credi for bringing order out of the initi chaos on the Normandy beaches according to General Shingler. They are th men who did the work.

The Engineer Special Brigades lande within a few minutes after the first assault infantry and combat enginee waves fought their way ashore. One lo six battalion commanders as well as it brigade commander. The men worke with rifles at hand. Enemy resistanc at points on some beaches was no cleaned up for almost a week. Th beaches were mined, wired, ditched and covered with obstacles. Hundred and then thousands of landing craft an ships dumped tons of material, thousands of vehicles, and scores of thousands of men on the littered beache For many days the front itself wa close enough for German artillery t reach the beaches. Storms which interrupted operations, and enemy air raids added to the difficulties.

The men of the Engineer Special Brigades, including Medics, Quartermaste Ordnance, Military Police, Signal an Chemical Warfare Units, the attache Naval Beach Battalions, Transportatio Corps Port Battalions, Quartermaste Truck Companies, Bomb Disposa Units, and other ASF Supply Unit under the command of the Brigades, al worked without sleep, without ho food, under fire, and through the storm to accomplish their supply miracle "When I left France," said Genera Shingler, "the only items of Army equipment we were not yet bringing in acros the beaches were railroad locomotives."

Cleaning up the beach to make i safe for the Navy to put in to shore wa primarily an engineering job. Here i how General Shingler described it "Clearing mines, both on the beach an the fields where we were to locate the pply dumps, was enough to keep the gineers busy. In addition, we had to ar the beach obstacles, gap the anti-k ditches and walls, lay roadways oss the loose sand, and continue these ch roads through to connect with e interior road net. We have built ch more than 100 miles of road to lp us to do the job of operating those aches.

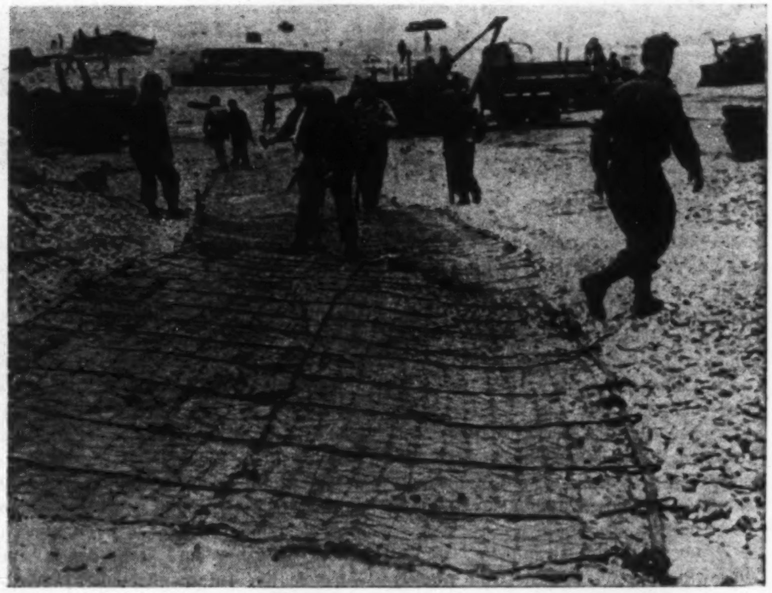
Beach like department store

"Simultaneously with the engineering eparations, you might say that we up a mammoth department store on se beaches. The commander of the ach is a sort of middleman between e customer and the supply fleet. On e side of him the ground forces are ving ahead, depending entirely on e beach operations for their lifeblood personnel and supplies. On the other le of him is an ocean full of ships iting until the beach is safe to bring eir cargoes in, unload, reload with sualties and prisoners, and head back r other cargoes. The beach commander is the amphibious link between e Navy operating the boats and the rmy fighting its way inland.

"The Service Force units operating e beaches "inducted" infantry personl coming off the boats, assembled em in "reception centers" on the ach, directed them to their respective tfits, established contact at the supply mps with the unit supply officers, sembled daily reports on the quanties of each of the many thousands of ems being accumulated in the dumps, pt traffic on the beach moving with minimum of delay, and answered eryone's questions.

"As fast as the boats could be brought we unloaded them. The smaller ats, such as landing craft, were run in as close to the beach as possible. Bigger vessels, such as the Liberty ships, had to stand off several miles. Our DUKW companies were working constantly, day and night, to handle the bulk of the unloading. We were handling not only the constant stream of ships from England, but also, with the operation in full swing, Liberty ships arriving at the beaches preloaded in the United States.

"We had but one aim on the beaches. Our mission was to take on all the worries of the ground force units except the fighting itself. I don't think the Germans yet understand how we made possible in so short a time the assembly on dry land of fully equipped armies capable of smashing through the Nazis' long-prepared defenses from Normandy to the Rhine and beyond."

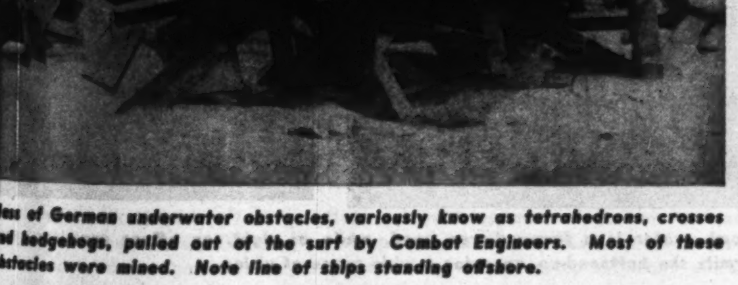


Men of an Engineer Special Brigade lay a triangular wire mesh of Sommerfeld type across a Normandy beach to provide a roadway for invasion vehicles. The superb manner in which these brigades "operate" the beaches is a big factor in our battle successes.

Col. Thompson describes training

Some insight into the training at the U. S. Assault Training Center in England, of which Col. Thompson was commanding officer, was given by him in answer to questioning on a recent "World News Today" radio program. The Assault Training Center was located on the western coast of England where the beaches and tides are very similar to those of Normandy. "Establishing the center was quite a job," said Col. Thompson, "because we had to reproduce the fortifications and obstacles which we knew existed, or would exist, across the Channel. Then we took standard American combat teams, Infantry, Artillery, Engineers and all, and trained them in the details of the landing-assault action ahead. Because the standard Naval assault landing craft, the LCVP, holds only 30 soldiers, the basis of our training was a 30-man assault section."

Col. Thompson revealed that the A.T.C. training period was about three weeks. Such brief training was possible because the units chosen for assault missions already had either been through actual combat or the amphibious training centers in this country. Moreover, after leaving the A.T.C. the units went into further months of intensive training, including large-scale rehearsals under their own tactical commanders.



les of German underwater obstacles, variously know as tetrahedrons, crosses nd hedgehogs, pulled out of the surf by Combat Engineers. Most of these bstacles were mined. Note line of ships standing offshore.

Battle-Tested Equipment Revealed By Engineer Board

Breaking a self-imposed and censor-abetted silence of long standing, the Engineer Board, research and development agency of the Corps of Engineers, recently released descriptions and photographs of several of its brain children that have proven their worth in war theater operations. Not all of the Engineer Board's secret weapons were revealed, by any means, but enough were shown to give a suggestion of the wide scope of special equipment available to our Engineer troops.

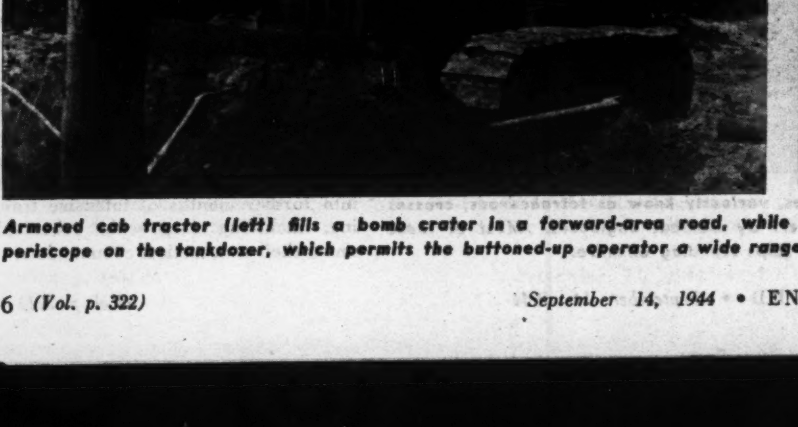
Armored Cabs—Designed last Fall following urgent requests from the war theaters for protection of tractor drivers against small arms, land mines and bomb and shell fragments. Armor plate is ½ in. thick. Bolt holes, with nuts welded on the inside, are provided so that the cab can be shipped knocked-down, and assembled in the field. Bullet-proof glass slots, permit the operator a full view ahead as shown in the photo below. In hot climates a 200-cfm fan is provided to cool the cab. Four different size cabs are available for different model tractors.

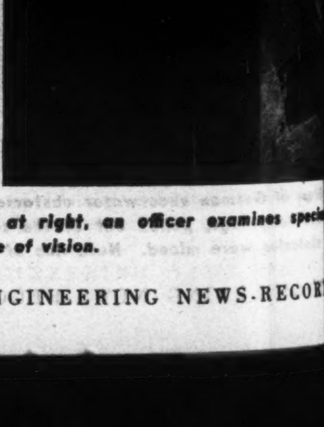
Tankdozer—Quantity production of bulldozer blades to mount on Sherman medium tanks began in Dec. 1943. (*ENR*, Aug. 31, 1944, vol. p. 255.) Blade is the largest size, standard La-Plant-Choate model except that it has longer pusharms and is equipped with a heavy tripod or bracket against which a hydraulic jack operates to lift and lower the blade. Attachment to the tank (at the back end of the pusharms) is of a type that can be released from within the tank permitting the blade to be jettisoned in a matter of seconds. Firepower, great weight and better protection of the operator are advantages the tankdozer has over the armored cab tractor.

Odograph—An instrument for automatically plotting the course of a moving vehicle; consists of a compass, a plotting table and the power unit electrically interconnected. Distance, from the speedometer, and direction, from the compass, are integrated in the plotting unit and a map is automatically drawn of the course. The odograph has been found useful in mapping unknown road routes, in tying field artillery guns together and, in general, for determining the positions of objectives relative to a given base. Maps can be made for any scale from 1 to 20,000 to 1 to 500,000. Map table is 8½x11 in. The present standard odograph was developed by the Engineer Board in cooperation with the National Development Research Committee, the Department of Terrestrial Magnetism and the Monroe Calculating Machine Co.

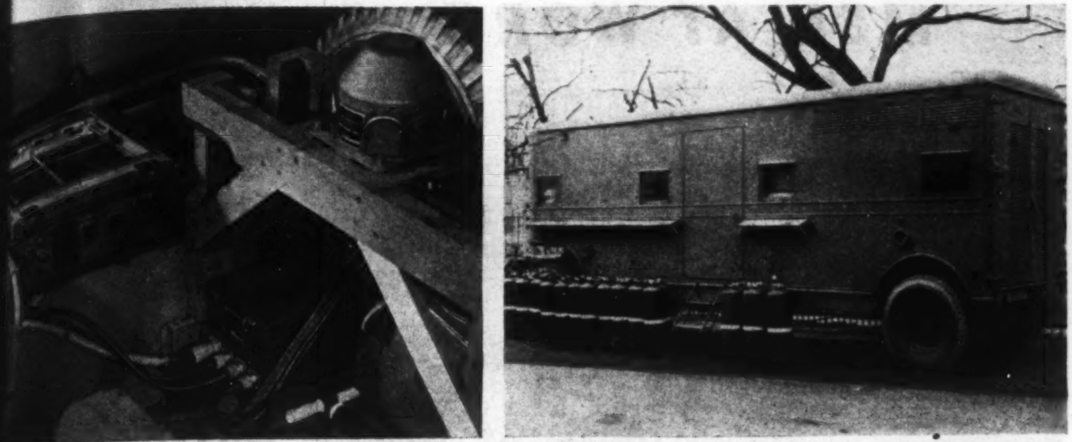
M-2 Treadway Bridge—Similar to M-1 bridge (*ENR*, April 15, 1944, vol. p. 518) except that it is larger, being able to take any vehicle up to 45 tons. The treadways, 45½ in. wide, formed steel channels pin-connected at joints, can be used as short sim spans, as floating spans supported pneumatic pontons spaced 12 ft. c. to or as fixed spans supported on adju able steel bents. The pneumatic ponto are rubberized canvas tubes 8 ft. 3 wide, 33 ft. long and 33 in. in diamet deflated, each ponton fits into a carryi case 4 ft. long and 3 ft. 9 in. in diamet A saddle of steel beams and plates, which the treadways are locked, tra mits the load to the ponton. Each En neer treadway bridge company carr enough equipage to build an 864 bridge, which it transports in spec crane-equipped bridge trucks and fourteen 2½-ton cargo trucks. New sign element in the M-2 bridge is place treadways off center of the p tons, downstream, which raises the stream end of the pontons, giving th greater stability in swift currents.

Camouflage Nets—Camouflage n are used either as flat-tops or drapes, t former being stretched parallel with t ground on a supporting framewo completely concealing the identity of t installation that it covers, while t draps merely disguise and disrupt t identifying shape, making it appear si ilar in form and texture to surroundi natural objects. Flat-tops are of cott twine fish net or woven wire fabric, f ted with garnishing. For the twine f





Armored cab tractor (left) fills a bomb crater in a forward-area road, while at right, an officer examines speci periscope on the tankdozer, which permits the buttoned-up operator a wide range of vision.

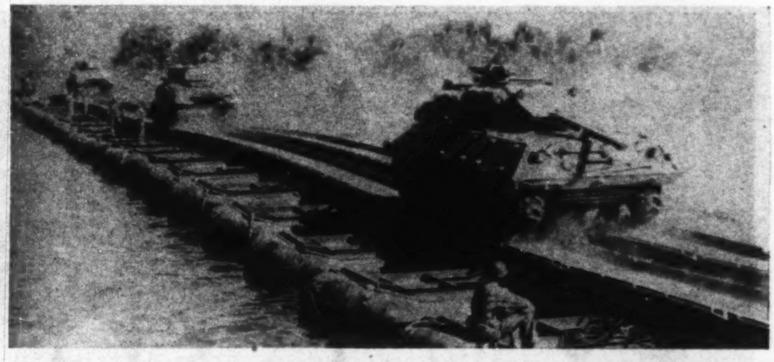


aph (left) mounted in a jeep. Compass at right, power unit and speedometer connection below and plotting table
t. Acetylene gas generating units (right) make and bottle gas in field for use of welding and cutting crews.

arnishing may be osnaburg, jute, , or paper, while for the wire, wool, glass wool, chicken feathers neral fiber are used. All materials ame proofed. Among recent de- nents is a huge prefabricated net er the large bombing planes. In- of having garnishing rather uni- y dispersed over the surface, this arranged in designs, some of which ertically and some horizontally. A eveloped solely for draping pur- as a substitute for critical cotton is made of a lace-type material as shrimp netting. It requires no hing, and can be used on steel hel- with twigs stuck in the interstices.

minum Landing Mat—Developed et the urgent need for a light- t mat that could be transported by Of the same pierced plank design steel mat (*ENR*, Aug. 24, 1944, . 231). Each plank is 10 ft. long in. wide and weighs 31.8 lb. as ared to 63.9 lb. for the steel design. heet in the aluminum mats is Alcoa alloy, 0.188 in. thick, yield gth 35,000 lb. per sq. in.; this com- with a 0.134 in. thickness and a 0-lb. yield strength for the sheet in teel mat. By increasing the thick- of the aluminum sheet approxi- y 40 percent over that of the steel equal stiffness is obtained. De- d with the cooperation of engi- of the Aluminum Co. of America, ipal manufacturer of the aluminum the mats are being fabricated by . S. Gypsum Co., Chicago and the Steel Fabricators, Wooster, Contracts call for 12,000,000 sq. quiring more than 45,000,000 lb. of num, equivalent to one-seventh of United States production of alu- in 1939.

rtable Gas Generating Units— en and acetylene for welding and g and nitrogen for flame throwers are manufactured and bottled under pressure in large semi-trailer plants. Availability of these field units has eliminated the necessity for shipping thousands of gas-filled cylinders all over the world. Oxygen and nitrogen are produced from the same plant, with air as the principle raw material; acetylene manufacture depends upon water and calcium carbide. Explosion proof motors are used to operate the pumps and compressors. The semi-trailer plants are about 30 ft. long, weigh from 16 to 20 tons, and were developed in cooperation with the Linde Air Products Co., and the Independent Engineering Co.



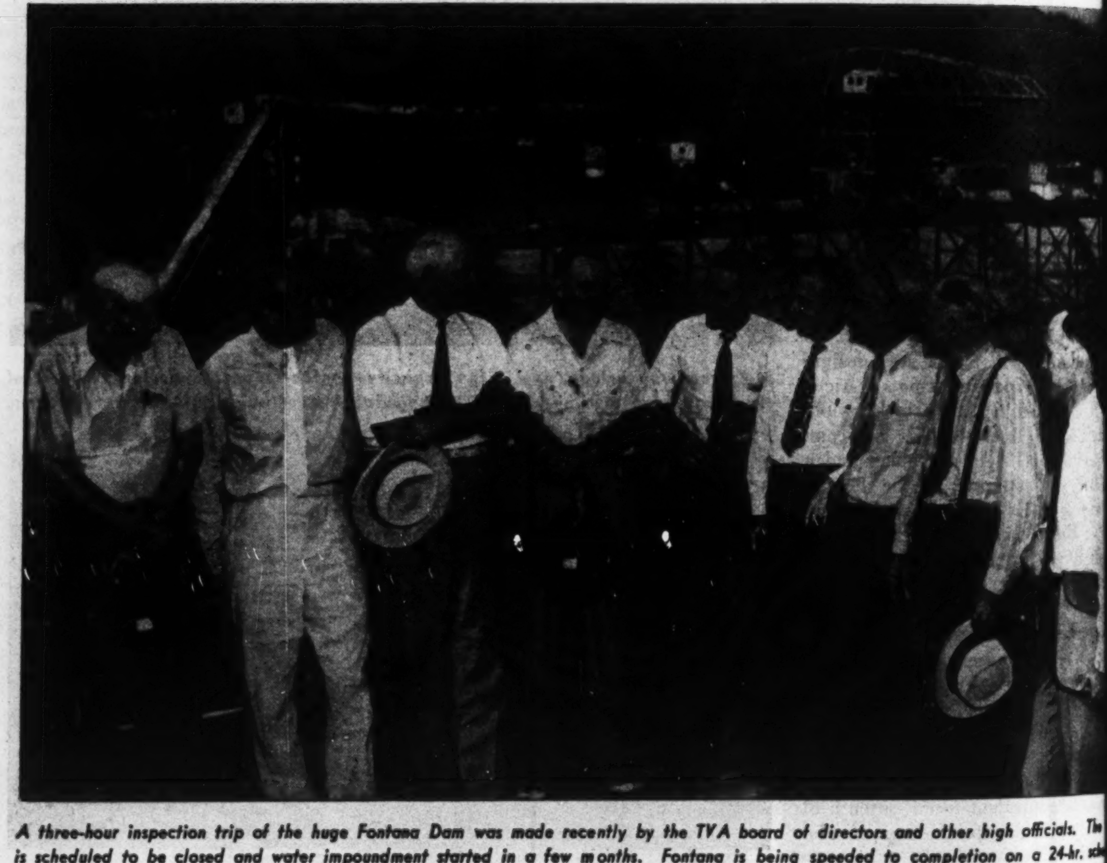
M-2 treadway bridge, new large capacity ponton-supported design. The steel treadways can also be carried by adjustable steel boats in shallower streams.

Huge semi-flat-top camouflage net for concealment of large bombers. Entire front pulls back to let plane in and out. New feature of design is broken pattern of garnishing, some running vertically and some horizontally.

MEN AT WORK

JOHN F. L. BATE (left), engineer in charge of construction; R. E. RULE (center), consulting engineer; and PROF. R. E. DAVIS, University of California, examine a core sample from the new 8,500-ft. long runway built for Consolidated-Vultee Aircraft Corp. at San Diego, Calif. (ENR, Aug. 24, p. 201)

Details of an earthfill water supply now under construction at Des Moines, are discussed by V. R. KNEER (left) r engineer on the project for Alvord, B Howson, Chicago, the consulting eng and DALE L. MAFFITT, secretary and g manager of the Des Moines Waterwo



A three-hour inspection trip of the huge Fontana Dam was made recently by the TVA board of directors and other high officials. Th is scheduled to be closed and water impoundment started in a few months. Fontana is being speeded to completion on a 24-hr. sch to provide war power. Left to right: ED MURPHEY, Fontana construction superintendent; DAVID E. LILIENTHAL, chairman; JAME POPE, director; FRED SCHLEMMER, Fontana project manager; FORDON R. CLAPP, general manager; C. E. BLEE, chief engineer; PAULS, chief construction engineer; DR. HARCOURT A. MORGAN, director; and OREN REED, Fontana construction engineer.

MEETINGS

National

ican Public Works Association, an- congress, Hotel St. Paul, St. Paul, Sept. 24-27.

tute of Traffic Engineers, 15th an- meeting, Sherman Hotel, Chicago, Ill., 1-4.

ican Public Health Association, d wartime public health conference 73rd annual business meeting, Hotel sylvania, New York, N. Y., Oct. 3-5.

ation of Sewage Works Associa- annual meeting, William Penn Hotel, burgh, Pa., in conjunction with 17th l conference of the Pennsylvania ice Works Association, Oct. 12-14.

national City Managers' Associa- annual conference, Medinah Club, ago, Ill., Oct. 12-17.

rican Welding Society, 25th annual ing, Hotel Cleveland, Cleveland, Ohio, 16-19.

ety for Experimental Stress Analy- fall meeting, Carter Hotel, Cleveland, Oct. 17-20.

ineers' Council for Professional elopment, 12th annual meeting, 29 39th St., New York, N. Y., Oct. 20-21.

rican Municipal Association, annual erence, Hotel Blackstone, Chicago, Ill., 25-27.

ional Council of State Boards of ineering Examiners, annual meeting, ington, Ky., Oct. 30-31.

rican Institute of Steel Constru- , annual meeting, Atlantic City, N. J., 31-Nov. 2.

hway Research Board, annual meet- , Netherlands Plaza Hotel, Cincinnati, o, Nov. 22-25.

Regional and Local

 England Water Works Association, ual meeting, Poland Spring House, Po- d Spring, Maine, Sept. 19-22.

cky Mountain Section, American Wa- Works Association, annual conference mopolitan Hotel, Denver, Colo., Sept. 22.

rth Carolina League of Municipali- s, 36th annual conference, Winston- lem, N. C., Oct. 4-6.

orgia Water and Sewage Association, h annual meeting, Atlanta Municipal ditorium, Atlanta, Ga., Oct. 5-7.

uthwest Section, American Water Works Association, Stephen F. Austin and Driskill Hotels, Austin, Texas, Oct. 17-19.

Missouri Valley Section, American Water Works Association, Hotel President, Kansas City, Mo., Oct. 23-24.

California Section, American Water Works Association, annual meeting, Hotel Biltmore, Los Angeles, Calif., Oct. 24-26.

West Virginia Section, American Water Works Association, annual meeting, Hotel Chancellor, Parkersburg, W. Va., Oct. 26-27.

Engineers' Society of Western Pennsylvania, 5th annual water conference, William Penn Hotel, Pittsburgh, Pa., Oct. 30-31.

Carolina Branch, Associated General Contractors of America, 24th annual meeting, Carolina Hotel, Southern Pines, N. C., Oct. 30-31.

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San Francisco to vote on new sewerage project

Replacement of San Francisco's inadequate and antiquated sewage facilities with modern sewage treatment plants and pumping stations, together with construction of new trunk sewers to replace old ones, will emerge as an early postwar project if a $12,000,000 bond issue is voted by San Franciscans at the Nov. 7 election.

The bond issue will go before the voters supported by the urgent recommendations of Mayor Roger D. Lapham and a special citizens' committee appointed to make an extensive survey of the city's requirements for sewage disposal. After obtaining the advice of qualified engineers, the citizens' committee recommended the expenditure of a minimum of $25,600,000 over a period of 15 to 20 years as the only means of modernizing the city's sewage system. The $12,000,000 bond issue, if adopted, would provide funds for work to be carried out during the first six or seven years after the cessation of hostilities.

An additional $3,000,000 for early improvements would be provided through a sewer rental system to other than municipal consumers which the city plans to initiate if the bond issue is carried.

Pollution of beaches in the entire San Francisco area has resulted from the inadequacy of the existing sewage system, some of which was installed as long as 60 years ago. Since 1908, two years after the San Francisco earthquake and fire, capital improvements have amounted to less than $5,000,000 and, during the past decade, only $295,000 has been spent on new construction.

MINE AT. N.M. M5

A land mine of glass

A glass land mine was revealed this week as one of America's effective secret weapons. Being completely non-metallic, the mine cannot be located by magnetic finders, or set off by electronic detonators. Known as the M5, the mine is effective against tanks, trucks and other vehicular weapons of the enemy.

The glass body of the mine is manufactured by the Insulux Products Division of the Owens-Illinois Glass Co., Muncie, Ind., on machines designed for the manufacture of glass building block.

War Department approves Long Island causeway

The War Department has approved the proposed location and construction plans of the $5,000,000 postwar Captree Causeway as submitted by the Long Island (N. Y.) State Park Commission.

The causeway will extend across the Great South Bay from Conklin's Point, West Islip, to Captree Island, and will bridge the boat channel to Oak Beach, where it will connect with the ocean boulevard to Jones Beach State Park. Stated in another way, it will join the mainland of Long Island with the east end of the offshore sandspit on which Jones Beach State Park is located, just as the Wantagh and Meadowbrook Causeways now join with the west end.

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A.R.B.A. annual meeting to be held in Chicago

The annual meeting of the American Road Builders Association is to be held in Chicago, Jan. 16-19, at the Stevens Hotel. No "Road Show" is planned, due to the continued preoccupation of manufacturers with war orders.

An active meeting is anticipated in view of the fact that legislation now before Congress calls for the largest highway construction program in the nation's history for the three years following the termination of the present war emergency.

Building supplies to be plentiful after the war

(*Continued from page* 1)

of the equipment in use before Pearl Harbor, although much the worse for wear, is still in use and can be made to last a few months longer, in view of the improved spare parts picture; and (6) American contractors have always been known for their ingenious ability to adapt the equipment available to the job in hand.

Although the WPB has not released details of the procedure to be followed in the removal of controls, the general plan is to require manufacturers to fulfill war orders first, while allowing them to place the remainder on the open market to be sold "first come first served." Supplies which are insufficient to meet all demands will need to be allocated in some way, but such restrictions will be reduced to a minimum. It is considered possible that after a few months most allocation restrictions can be eliminated.

Along with the elimination of the restrictions on the production and distribution of materials and equipment, price regulations, excepting those necessary to prevent inflationary prices, are to be removed as soon after Germany collapses as possible. When sufficient supplies of a material begin to develop, the controls on that product will be removed.

Checklist of present availability

To present in more detailed form the favorable outlook taken in regard to the deliveries of construction materials after the European war ends, a checklist of the availability of a number of materials has been prepared. Based on studies by government agencies, the checklist, along with a forecast of what to expect in the next few months, follows:

Steel—Although not abundant, reinforcing bars and structural members can be obtained in a reasonable length of time. Ample supplies are expected within a few weeks after Germany asks for peace.

Lumber—Severe shortage of all types of lumber and lumber products now exists, making lumber the most critical building material at present. In 1943 about 75 percent of lumber consumption was for direct and indirect war uses, and the end of the European conflict will not materially reduce war demands. This fact, coupled with the lack of sufficient logging manpower, shortage of trucks and truck tires for lumbering operations, and the drop of lumber inventories from a total of 17 billion bd. ft. in 1941 to 7 billion bd. ft. at present, will cause lumber to be critical for some time.

Portland cement—Free of WPB controls except that production is restricted to types I, II, and III as defined by A.S.T.M. specifications. Cement has been ample for the past several months and should continue so.

Aggregates—Some aggregate plants are now shut down because of manpower and others because of lack of orders. Generally ample at present, aggregate and sand supplies will be free of other than local shortages for some time.

Concrete products—Local shortages have occurred in recent weeks, but supplies of concrete block, cinder block, and other concrete building materials are expected to be available in sufficient quantity for the next several months.

Pipe—Concrete, cement asbestos, clay and cast iron pipe are now generally plentiful and will continue so. Steel pipe, now available in limited quantities, is soon to become more plentiful. Present shortage of corrugated metal drainage pipe is not to be relieved soon because of war demands that will continue.

Building brick—Southern California is one area where a shortage of building brick now occurs, but this shortage is soon to be relieved.

Other clay products—Supply of structural clay products is generally ample, although floor and wall tile are tight. Availability in future appears good.

Plaster—Now ample to meet present demands are gypsum plaster, cement plaster, gypsum lath, metal lath, and metal stucco base. Of these materials only metal lath is expected to get tight with increased demands, and shortage is not to last long after cutback of war orders.

Cement-asbestos—Products of cement-asbestos are now ample except for local shortages of siding shingles. Supplies are expected to be sufficient in near future.

Metal doors and windows—Present restrictions on production and distribution are to be relaxed with Germany's defeat. A few months later deliveries on a greatly increased scale can be expected.

Nails—Although not plentiful, supplies in the past few months have been ample and no shortages are expected.

Bolts and screws—Small size bolts are tight, while ⅞-in. dia. and larger sizes are not so critical. Because of great demands for military work, shortages are expected to continue until metal cutbacks begin to show effect.

Plumbing supplies—Bathtubs, copper tubing and other plumbing needs are now critical and are expected to continue so.

Airconditioning — Critical for many months, airconditioning supplies will continue so for some time. However, in accordance with recent WPB rulings, manufacturers may now produce many products formerly restricted, so long as the necessary raw materials and manpower in manufacturing areas are not needed for war program. This ruling should aid in making airconditioning supplies available sooner than otherwise possible.

Lighting fixtures—Now critical, the number of fluorescent fixtures that can be manufactured is limited by supply of ballasts and transformers, which are now needed for radar and other combat equipment. This limitation on production will continue during remainder of the Pacific war. The general trend is toward relaxation of metal restrictions. Prohibited for some time, metal reflectors are now being made.

Copper products—On July 31, a freeze order severely restricting the distribution of copper downspouts, flashing, gutters an related products was removed, permittin manufacturers and jobbers to sell any mate rial of this type available. However, manu facture of these items is still restricted Copper tubing is still frozen, but home owners may now replace wornout pipe with new copper conduits. Due to military re quirements taking 90 percent of presen copper output, army cutbacks will releas large quantities of copper for production o civilian needs. This condition is expected to make ample copper building supplies available a few months after Germany collapses.

Truck-mounted cranes — Military demands for this equipment now taking 9 percent of production, make supplies exceedingly tight. Some cutbacks are anticipated but at the present time the types, sizes, and mounts not known. As a result, no accurate forecast is possible.

Tractor-mounted cranes—Military demands are taking from 75 to 90 percent of the production of tractor-mounted cranes and shovels, tractors, and motor graders. However, shipment of cranes and shovels in 1943 was nearly thirteen times that in 1937, indicating a great increase in facilities for producing this type of machinery. Increase of production facilities for tractors and motor graders is also great. As a result, this equipment is expected to become much more plentiful with cutbacks.

Mixers, hoists, etc.—These machines are much more plentiful than the equipment mentioned in the two previous paragraphs. The picture is expected to improve still more in the next few months.

Used equipment—A short time after Germany collapses, order L196 of the WPB, which controls transfer of used shovels, cranes, crawler tractors, and motor graders, probably will be removed because new equipment is expected to be available.

Repair parts—Tight for the last six months, repair parts are beginning to ease and the only really tight parts are roller bearings, fractional horsepower electric motors, and those parts needed for repair of engines and gear shafts, The picture is expected to improve.

Indiana cities ordered to end river pollution

South Bend, Mishawaka and Elkha Ind., have preliminary orders from t State Stream Pollution Board to cea polluting the St. Joseph River by Ju 1, 1945.

Similar orders were sent to Munst and Highland, in Lake County, concer ing the Little Calumet River; to Pendl ton, concerning Fall Creek, in Madis County, and to the McCormick Bro Co., of Albany, concerning the Mi sissinewa River in Delaware County.

Back of the state board's action is b lieved to be Indiana's desire to esta lish a good record of effort should Mich gan go into the federal courts, as threa ened, with mandate petitions. Michiga cities adjacent to the St. Joseph Rive claim that upstream Indiana communi ties seriously pollute the river.

MEN AND JOBS

Lewis A. Schmidt, Jr., has opened engineering office in Chattanooga, nn., and will cialize in foundation problems of gineering structures, particularly kage on hydro ojects. Schmidt s been acting-oject manager the Tennessee lley Authority leakage correcn at Hales Bar Dam on the Tennessee ver and recently supervised experiental grouting to stop seepage at VA's Great Falls Dam on the Cumbernd River. Schmidt was in the Conruction Plant Division of TVA for a me and formerly was with Harza Engiering Co. on hydro-electric projects roughout the midwest and south.

Promotions for Sanitary Corps offirs assigned to the Health and Sanitan Division of the Office of the Coorditor of Inter-American Affairs have en announced as follows:

Robert K. Horton, at Chimbote, eru, from captain to major.

John C. Bumstead, in the Rio Doce lley, Brazil, from captain to major.

Wyman R. Stone, chief of party Ecuador, from captain to major.

John B. Brown, with the field party Honduras, from captain to major.

It is likewise announced by the Health d Sanitation Division that **David B. e**, formerly state santitary engineer f Florida and recently a captain in the anitary Corp on duty in the South acific, is now on duty with the Division, d has been recently promoted to the nk of major. Also, **Capt. Robert . Barnes**, formerly of the Alabama tate Health Department, is now on uty in the Dominican Republic.

Ralph A. Tudor, Portland, Ore., disict engineer of the U. S. Army Engieers, has been promoted from lieutent colonel to a full colonelcy. He has en at Portland since last May, when e succeeded Col. Donald J. Leehey, ho was transferred to Camp Clairorne, La. A graduate of West Point in 923, Colonel Tudor attended Cornell niversity, receiving a degree in civil ngineering in 1925.

Frederick Sherman Nance, Jr., has been in the southwest Pacific since he was graduated in civil engineering from Iowa State college in 1943. He is a lieutenant in an engineer combat battalion.

George J. Schroepfer, chief engineer and superintendent of the Minneapolis-St. Paul Sanitary District, is serving as a part-time consultant to the Office of the Chief of Engineers of the War Department in Washington, D. C., in the preparation of a technical manual relative to preventive maintenance of equipment in army sewage treatment plants.

H. P. Stockton, Jr., who has been serving as a captain with the U. S. Engineers on airport construction in Texas, has been released from military duty and has returned to the Texas Highway Department in the planning survey division. Before entering the service he was resident engineer at Belton.

E. E. Pittman, former assistant district engineer with the Texas Highway department at Abilene, has returned to the department as design engineer in the road design division at Austin. He has been away from the department on war work for the past two years.

John E. Blair has returned to the Texas Highway Department at Austin, as special research engineer, after a leave of absence of 20 months serving as lieutenant commander with the Navy. Prior to entering the Navy he was chief engineer, construction and design, for 20 months and district engineer for 14 years, stationed at Bryan.

Roy L. Clark, for the past year a regional chief of the technical advisory service of the Smaller War Plants Corp., has resigned to return to his consulting engineer firm. Nemmers and Clark, Des Moines.

Richard F. Posten, former city engineer at Iowa Falls, Ia., has recently been loaned to the federal government to serve as sanitary engineer in New Mexico.

Clifford K. Ridinger of Grand Rapids, Mich., has been promoted to first lieutenant after seven months' service with an Engineers' Corps in Italy. Mr. Ridinger has been directing a ground crew in construction of air bases. Prior to entering the army, he attended the University of Michigan School of Engineering.

George F. Liddle, now on leave from his Muskegon, Mich., civil service job, has been advanced from captain to major in the U. S. Army Engineer corps.

Major Liddle is the post engineer at the Romulus Air Field, Romulus, Mich.

Prior to entering the army, Mr. Liddle, in consultation with civil engineers at Muskegon, promoted and instituted many improvements in the city's roads, parks and buildings. He was at one time city superintendent, and later, city manager.

Maj. Glenville A. Collins has been honorably retired from the Army Engineers Corps and has reopened his consulting engineer offices in the Porter building, Portland, Ore. Major Collins, who supervised construction of a large army cantonment and designed and built central power stations, is devoting much study to civic planning, utilities and manufacturing.

Commander Quincy C. Ayres, professor in the agricultural engineering department at Iowa State college before the war, has been transferred from the Bureau of Yards and Docks at Washington, D. C., to the headquarters office of public works, 13th naval district, Seattle, Wash.

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Batley new director of Pennsylvania water board

Richard C. Batley has been appointed director of the Bureau of Waters and chief engineer of the Water and Power Resources Board of the Pennsylvania Department of Forests and Waters.

Born in Yorkshire in 1885, Mr. Batley was educated in England and was graduated in engineering from Leeds University in 1907. After a few months with the Canadian Pacific R.R. in Montreal, he came to the United States, and for the next five years worked on the design and construction of waterworks systems in New York, Rhode Island and Pennsylvania.

Since 1912, with the exception of the years 1937-39, he has been associated with the Pennsylvania Department of Forests and Waters in all divisions of the Bureau of Waters. Since 1939, practically all his time has been devoted to the large flood-control programs in the Susquehanna River basin.

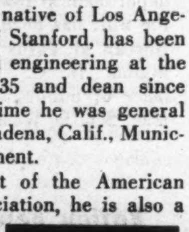
S. B. Morris new head of Los Angeles water bureau

S. B. Morris

Resignation of H. A. Van Norman as general manager and chief engineer of the Los Angeles Department of Water and Power and appointment of Samuel B. Morris, dean of Stanford University's School of Engineering, to the $25,000 a year post was announced by the city's Board of Water and Power Commissioners August 29. On September 4 Dean Morris announced that his resignation from Stanford had been accepted.

Mr. Van Norman, 65-year-old pioneer developer of the city's aqueduct system who first joined the department in 1907, will retire September 30 but will be retained as an advisory engineer until next January 1 at $1,000 a month.

Dean Morris, 54, native of Los Angeles and graduate of Stanford, has been a professor of civil engineering at the university since 1935 and dean since 1936. Before that time he was general manager of the Pasadena, Calif., Municipal Water Department.


H. A. Van Norman

Current president of the American Water Works Association, he is also a member of the American Geophysical Union, the Seismological Society of America and Newcomer Society of England. He has held engineering consultant positions and similar affiliations with national and public bodies on the Pacific Coast.

Mr. Van Norman, a national director of the American Water Works Association and past president of the California section, sought to retire a year ago when the water bureau and power bureau combined, but remained as chief of both. Serving the water bureau through most of 37 years, Mr. Van Norman is noted, with William Mulholland, as developer of the aqueduct bringing water to Los Angeles.

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Methane gas from sludge digestors at the sewage treatment plant of Stockholm, Sweden, supplied sufficient fuel for buses and other motor vehicles operated by the municipality in 1943.

JOBS OF THE WEEK

TIRE PLANT, Topeka, Kan.

J. A. Johnson Contracting Corp., Brooklyn, N. Y., has been awarded a co to construct a tire plant by Goodyear Tire & Rubber Co., Akron, Ohio, to about $4,5000,000. Defense Plant Corp. will finance. J. Gordon Turnbull, Kansas City, Mo., is the consulting engineer. W. D. LaDue, is company resi engineer in charge of construction.

RESIDENCES, Kansas City, Mo.

President Gardens Co., care of Gentry & Voskamp, architects, Kansas Mo.; awarded a contract for 36 apartment buildings to Patti-MacDonald struction Co., Kansas City, Mo. The estimated cost is $2,500,000. FHA finance.

MAGAZINES, Fallbrook, Calif.

Shannahan Brothers, Huntington Park, Calif., have been awarded a cont by the Bureau of Yards & Docks, Navy Department, Washington, D. C., additional magazines at Naval Ammunition Depot, at $1,191,582.

INDUSTRIAL AND PERSONNEL BUILDINGS, Bangor, Wash.

Lease & Leigland and Kuney Johnson Co., Seattle, Wash., will construct in trial and personnel buildings and services, at U. S. Naval Magazine, to $2,681,122. Bureau of Yards & Docks, Navy Department, Washington, D. awarded the contract.

IMPROVING LANDING MAT, San Diego, Calif.

Macco Construction Co., Clearwater, Calif., has been awarded a contract Bureau of Yards & Docks, Navy Department, Washington, D. C., for gra and paving landing mat and additional taxiways at Naval Air Station, $3,406,790.

POWER LINE, Washington.

Bonneville Power Administration, Portland, Ore., will construct by force acc a 53-mile power line from Midway to Columbia, near Wenatchee, with station at Columbia and additions to Midway substation. The estimated co $2,670,000.

HOSPITAL, Perry Point, Md.

William R. Goss Co., Chicago, Ill., was lowest bidder for hospital build laundry and utilities at Veterans Hospital, at $977,000. Veterans Adminis tion, Washington, D. C., opened bids.

Note—Additional bidding and contract news on many projects large and small appear in the Constru News section beginning on page 15.

Three states to vote on motor tax diversion

The battle against diversion of motor tax revenues for non-highway purposes is still being strongly waged with Maine, Nebraska and Washington likely this fall to join the ranks of the 14 states that have the protection of constitutional amendments against such diversion, according to the American Road Builders' Association.

"It is expected that the amendments in the three states will be approved by reason of the public acceptance which has greeted the proposals," said Charles M. Upham, engineer-director of the association. He pointed out that never yet have voters of any state rejected such amendments.

The 14 states which have adopted constitutional amendments preventing diversion of highway funds are Minnesota, Kansas, Missouri, Colorado, California, Michigan, New Hampshire, Idaho, vada, North Dakota, South Dak Iowa, Oregon and West Virginia.

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Rights-of-way obtained for Blue Ridge Parkwa

The North Carolina Highway C mission has announced that it has tained rights-of-way for more than miles of the Blue Ridge Park through western North Carolina preparation for the resumption of c struction when the war is over.

More than 250 miles of the park route is in the state, and construct activities were halted shortly after war began.

Charles Ross, acting chairman of N. C. Commission, says that a policy obtaining rights-of-way from 800 1,000 ft. wide to preserve natural gro and scenic possibilities is being resum

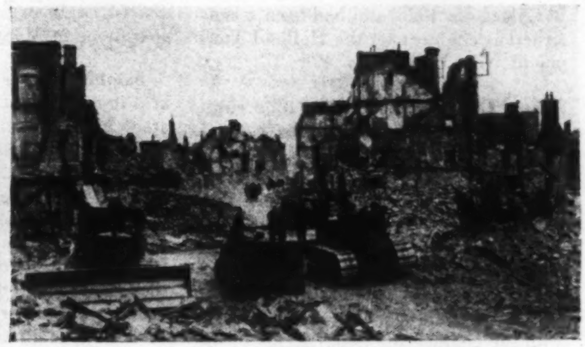
Combat Engineers make war of movement possible

The spectacular element in the Battle of rance has been the long and fast advances f tanks, mobile guns and motorized infantry, the success of which the work of the Com- t Engineers has been vital. This work has cluded removing mines, clearing roads and ridging streams, as pictured here. And it s also involved the operation of tankdozers, e blasting of fortifications and the demoli- on of enemy installations generally.

In the view at the right, Combat Engineers re examining a French village street with ine detectors as a bulldozer follows along to clear the way for the motorized fighting forces.

At the bottom left, infantrymen and tanks advance over a road made passable by Combat Engineer troops. The bridge is a simple span made of three connected steel treadway units.

Bottom right: Bulldozers of the Combat Engineers wind up the job of clearing the streets of St. Lo at the time of the Third Army's break-through, which heralded the end of the Battle of Normandy and the beginning of the Battle of France.



Airports commission for Minneapolis-St. Paul

Aviation development in the Twin Cities area entered a new era in August when the Minneapolis-St. Paul metropolitan airports commission took over operation of the two cities' municipal airports and will direct all future airport activities within a 25-mile radius of the cities.

The change in control of the airports will result in a program for unified development of an airport system for the two cities, designed to handle needs of both commercial operations and the increasing number of private fliers, the American Municipal Association said.

Full control of Wold-Chamberlain Field in Minneapolis and the Holman Municipal airport in St. Paul was assumed by the commission. Contracts were approved with the two cities authorizing the commission to take over operation, including all leases, agreements and contracts now in force at the fields. Wold-Chamberlain Field will be the major passenger terminal, while the other airport will be the major special services airport accommodating military needs, plane repairs, sales and service, special charter and air contract service, private flying and other special uses in the public interest.

The commission is authorized to issue up to $15,000,000 in bonds for airport improvements. Operations of the commission are financed by levies against the two cities based on their respective assessed valuations. Present distribution is 63 percent for Minneapolis and 37 percent for St. Paul.

A state law passed last year creating the metropolitan airports commission included an appropriation of $1,000,000 to the governor for use in airport development work beneficial to the state as a whole. The Twin Cities commission is expected to request a substantial allocation from this fund to prepare airport development plans for the area.

• • •

Senate votes to act on postwar road bill

By a vote of 35 to 18, the Senate on Sept. 12 agreed to take up consideration of the Hayden Postwar Highway bill (S. 2105). Opposition to considering the legislation thus was overcome, and Senator Hayden expressed the view that this vote indicated sufficient strength to pass the bill provided a quorum could be maintained in the Senate long enough to act on it. This bill (*ENR*, Aug. 24, p. 208) provides $650,000,000 a year for three years for federal aid to the states, while the House bill (H.R. 4915) provides $500,000,000. The Hayden bill raises the federal share of the cost of highway projects to 60 percent for each of three years. The House bill has a similar provision for only the first year.

California employees bargain collectively

Collective-bargaining agreements between California governmental agencies and unions representing their employees were given official sanction of the state's attorney general, Robert W. Kenny, recently when he advised the Richmond Housing Authority that it has the right to recognize employe representatives in entering contracts.

Officials of the Richmond Housing Authority had asked for an opinion on the legality of entering into a collective-bargaining agreement, dealing with hours, wages and working conditions, with individual labor unions or with a central labor council.

In conceding state employees the right to collective bargaining, Mr. Kenny cited a statement of Wayne L. Morse, of the National War Labor Board, wherein he said:

"Although government employees have no right to employ the strike method in settling their labor disputes with government, the corollary does not follow that government employees are without the right to organize and participate in a limited form of collective bargaining with the government."

Other municipalities which have entered into collective-bargaining agreements, cited in the opinion from the War Labor Board, are Muncie, Ind., South Bend, Ind., Jeannette, Pa., and Fairmount, West Va.

OBITUARY

Chester Church, 45, construction engineer of St. Petersburg, Fla., died Aug. 30. He had just finished five months employment with the Port Authority of New York City. A veteran of World War I, he had recently returned from 13 months service in North Africa with a civilian construction company. He was employed during construction of the Livingston fountain and Wacker Drive in Chicago in 1925, and had been a construction engineer on the Holland Tunnel in New York.

Levi C. Perkins, 66, long time engineer with the Southern Railway, died Sept. 4 in Hortsville, N. C.

Elmer T. Howson, 60, western editor of *Railway Age* and editor of *Railway Engineering and Maintenance*, died in Chicago on Sept. 1. A civil engineering graduate of the University of Wisconsin in 1906, Mr. Howson was with the engineering departments of the Iowa & Illinois Ry. and the Chicago, Burlington & Quincy R.R. for five years before joining the staff of *Railway Age* in 1911. He served that publication as engineering editor from 1911 to 1919 and as western editor from 1919. In 1916 he was named editor of *Railway Engineering and Maintenance*. Mr. Howson was a past president of the Western Society of Engineers and the American Wood Preservers Association. He took an active part in affairs of the American Railway Esgineering Association, being a director at the time of his death.

Steward J. Fairbanks, 54, Watertown, Ia., construction engineer and superintendent for the Waterloo, Cedar Falls and Northern Ry. Co. for the past 29 years, died recently.

Benjamin M. Bates, 41, a civil engineer at Brewster, Ohio, died Aug. 29 in Hamilton, Ont.

George F. Horton, 63, contractor and engineer, died at Houston, Tex., recently. During his long engineering and contracting career he served as surveyor and as county engineer of Harris county, built the first wharf and railroad line into the Houston port district and constructed three of Houston's main sewers.

Henry L. Hall, 83 retired construction engineer, of Plainfield, N. J., died Aug. 30. He served in the first World War as a construction engineer in the Quartermaster Corps and later recived the rank of major.

William Haley, 96, who did pioneer railroad and other construction work in the South, died at Houston, Tex., Aug. 22.

Arthur E. Dubuc, 64, former chief engineer of the National Harbors Board of Canada, died in Ottawa, Ont., Sept. 5. He was graduated from Laval University in 1901 and for 11 years was an assistant engineer with the public works department; from 1912 to 1914 he was district engineer in charge of dredging operations in Montreal.

Samuel D. Foster, 64, died Sept. 9 at Pittsburgh, Pa. After being graduated from Washington and Jefferson College in 1903 as an engineer, Foster went to Panama, where, under Maj. William Siebert, a Canal Zone commissioner, he transformed the city's mud roads into modern paved streets. Once, when he and his crew ran out of bricks they used concrete, one of the earliest uses of that material in street construction. In the first World War Colonel Foster was decorated by the Belgian Government for bravery.

Moses Jerome Look, 70, of Provincetown, Mass., died recently after a long career in engineering. He was a graduate of M.I.T. He was assistant and division engineer in the construction of the metropolitan water works of Massachusetts, 1895-1905; and engineer and general superintendent for MacArthur Bros. and Winston & Co. on the Cross River Dam and reservoir, Katonah, N. Y., 1905-1907. He later worked on the Ashokan Dam for New York City, and on many other important dam projects.

Erwin Drost, 44, civil engineer of Milwaukee, Wis., died Sept. 5 in that city. He once served as public works inspector for the city in the building of its water purification plant. Drost was attached to the 56th Armored Engineers battalion at Camp Polk, La., receiving a medical discharge in April, 1943.

James F. McCormick, 41, an engineer on the staff of the New Hampshire State Highway Department, died recently at Concord, N. H.

Henry James Curtis, 80, builder of large commercial buildings and fine residences, died at Dallas, Tex., Aug. 27. Among the structures he built at Dallas were St. Paul's Hospital, the Chamber of Commerce Building, Dallas University, the Reserve Life Insurance Building, and the Rio Grande Life Insurance Building.

Williamsburg to build new water supply systen

Bids for the construction of a wate works system, including a pumping st tion, filtration plant, storage reservo and transmission line, will be taken b the city of Williamsburg, Va. on Sep 20.

Plans prepared by Wiley & Wilso consulting engineers, of Lynchburg, Va call for a raw-water pumping station, filtration plant having a capacity o one million gallons daily and a 500,00 gal. clearwater reservoir, which will b built on a site near Waller Pond dam and installation of approximately 14,50 ft. of 12-in. cast iron pipe to connec the storage reservoir with the city's dis tribution system. The dam at Walle Pond was constructed by the Federa Works Agency to impound water fo Camp Peary. Under terms of an agree ment with the Federal Works Agency the city will purchase the dam and reser voir after the war.

At present Williamsburg obtains it water from deep wells, and city official report that the supply is inadequate during periods of drouth. The filtratio plant, pumping station, storage reservoi and pipeline will be completed at an estimated cost of $273,000. Fifty per cent of the cost will be supplied by the Federal Works Agency as a grant to the city.

WEEKLY CONSTRUCTION SUMMARY

CONTRACTS

Continental U. S. Only
(Thousands of Dollars)

	Week Ending Sept. 16 1943	Sept. 7 1944	Sept. 14 1944
Federal	$30,535	$18,713	$27,436
State & Municipal	6,579	3,823	8,041
Total public	$37,114	$22,536	$35,477
Total private	6,218	2,833	6,993
TOTAL	$43,332	$25,369	$42,470

Cumulative
1944......(37 weeks)......$1,329,481
1943......(37 weeks)......$2,365,700

Note: Minimum size projects included are: Waterworks and waterways projects, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

NEW PRODUCTIVE CAPITAL

	Cumulative 1943 37 Weeks	1944 37 Weeks
NON-FEDERAL	$275,650	$341,776
Corp. Securities	17,408	94,475
State & Mun.	98,109	106,511
RFC Loans	9,000	57,790
FPHA Loans	3,133	....
REA Loans	20,000	20,000
Fed.-Aid Hwy.	128,000	63,000
FEDERAL	$2,653,838	$1,263,800
TOTAL CAPITAL	$2,929,488	$1,605,576

ENR INDEX NUMBERS

Index base=100		1913	1926
Construction Cost	Sept. '44	300.46	144.43
Building Cost	Sept. '44	236.00	127.57
Volume	Aug. '44	121.	53.

CONSTRUCTION REPORTS

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.
ELSIE EAVES, Manager *SCOTT McLEOD, Statistics* *J. A. MAHONEY, Reports*
(Daily service also available—Write for details)

Location of ENR Correspondents

Symbols and Abbreviations Include:

†	Federal Government
★	Project of $500,000 or over
ENR	Engineering News-Record
CD	Engineering News-Record Construction Daily
A-E-M	Architect-Engineer-Management type of contract

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger; water supply, earthwork, waterworks, $15,000; other public works $25,000; industrial buildings, $40,000; other buildings, $150,000.

Classes of Construction

(Named in order of Listing)

Water Supply
Sewers, Waste Disposal
Bridges
Streets & Roads
Earthwork, Waterways
Latin America
Public Buildings
Commercial Buildings
Industrial Buildings
Unclassified

Stages Reported

PROPOSED: (except Streets & Roads):
BIDS ASKED (new announcements only. For full calendar, see also preceding issues of ENR);

LOW BIDDERS: On jobs below $500,000 value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage

Dates shown are of issue in which last previous report was published.

WATER SUPPLY

ROPOSED WORK

†Calif., Bixler Station—East Bay Municipal Utility Dist., pump. plant of s 47.5 m.g.p.d. cap. pumps, Calif. 4-619-N. 24,126. **FWA.**

†Fla., Lake City—City, waterworks plant prvs., addn., incl. water treatment tank, arbonation basin, 3 story filter bldg., etc., a. 8-336-N. $81,500. **FWA.**

†Ga., Columbus—Muscogee Co., Columbus, rs., imprv. water distr. sys., incl. approx. ,700 lin. ft. 2- to 12-in. watermains, ,000 gal. elevated tank, valves, etc., Ga. 290-N. $69,370. **FWA.**

Kan., Oswego — City, water purification ant. $35,000. Applied for FWA funds. T. Lawrence, 1802 N. W. 21 St., Okla-ma City, Okla., engr.

Texas—W. L. Goldston, Jr., Oil & Gas dg., Houston, salt water disposal well, razoria Co. $75,000.

Tex., Pharr—City, A. A. Kelly, mayor, ty Hall, making plans, water and sewer prvs., incl. enlargement present water ant, exten., repair water and sewer mains d rebuild sewage disposal plant. A. E. mm, 107 S. First St., Harlingen, engr.

Wash., Seattle—City, County-City Bldg., ne 4, watermains 37 Ave., N.E. and ljacent streets. $75,954. C. L. Wartelle, ty engr.

Wash., Seattle—City, County City Bldg., attle, Zone 4, watermains in area between reenwood and Aurora Ave., N. 95 and 105 . $90,000. C. L. Wartelle, city engr.

B. C., Princeton—General Utility Co., Ltd., arine Bldg., Vancouver, relaying watermains, etc. $16,000.

Ont., Grand Bend—Municipality, c/o J. anore, councilman, Grand Bend, water s. $25,000.

Ont., Nipigon—Municipality, deep well and mp, 150-200 gpm., other sys. imprvs. 0,000. C. Sodergren, Town Hall, engr.

Ont., Oil Springs—Municipality, J. Kit-en, mayor, WW sys. $30,000.

Ont., Sudbury—Municipality, making plans 0,000 gal. elevated steel tank. $66,700. H. Martindale, City Hall, engr.

Ont., Toronto—Municipality, watermain in lythwood Rd. from Mount Pleasant Rd. to esterly limit of Sunnybrooke Park. $20,000.

Que., Courville—Municipality, c/o L. P. aplante, clk., water sys. $20,000.

Que., Hull — Municipality, WW imprvs. 1,300. T. Lanctot, City Hall, engr. CD 5—ENR 6/8.

Que., Laurierville—Municipality, H. Leieux, clk., WW imprvs. $15,000.

★Que., Montreal—Municipality, J. A. Mongeau, city clk., intake to Lachine Rapids, 2,000,000; extra pump. equip., $1,000,000. ontreal Water Bd., St. Joseph St., Verdun, gr.

Que., St. Joseph De Mont Rolland—Municipality, water intake and pipe. $75,000. ohier & Dorais, 10 St. James St. E. Moneal, engrs.

Que., Three Rivers—Corp de la Banlieu of hree Rivers, Three Rivers, well, etc. $15,-0. J. E. Fleury, 767 Commissioners St., gr. CD 6/15—ENR 6/22.

IDS ASKED

Bids Asked September 18

Que., Ste. Therese—G. E. Filiatrault, town cy., supply and partial construction water s. S. Oulmet, 750 St. Gabriel St., Monreal, engr.

Bids Asked September 19

N. Y., New York—Commissioner Water upply, Gas & Electricity, Municipal Bldg., one 7. hauling, laying watermains, apurtenances in De Lavall and Tillotson Aves., ronx Boro. Plans deposit $1.

Bids Asked September 20

†Va., Williamsburg—City, filtration plant, ump. sta., storage reservoir, transmission ne, at Waller's Dam. Va. 44-373. $273,000. WA. Extended date. Wiley & Wilson, 907 eoples Natl. Bank Bldg., Lynchburg, conlt. engrs. CD 8/30—ENR 9/7.

Bids Asked September 21

†Tex., Nederland — City, H. C. Farris, ayor, City Hall, well and water distr. s. addn., Tex. 41-593. **FWA.** Plans deosit $12. Chas. P. Smith, Bancroft Bldg., range, engr. CD 9/6.

Bids Asked September 26

Tex., Spofford—City, c/o J. York, mayor, ity Hall, constructing, installing fresh water treating plant, incl. structures, equip., piping, fittings, valves, appurtenances. Plans deposit $15.

Bids Asked in October

Mont., Fort Benton—City, C. F. Morris, clk., water storage tank, mains. $30,000. Corwin & Co., 225 Ford Bldg., Great Falls, engr.

Bids Asked October 10

†Tex., Amarillo—Veterans Admin., Vermont Ave. between H and I Sts. N.W., Wash. 25, D. C., deep well pump, pump house, Proj. 2098. CD 7/6/43—ENR 7/8/43.

LOW BIDDERS

†D. C., Wash.—U. S. Eng., First and Douglas Sts. N.W., Zone 25, Sept. 5, blow-off pipeline at Georgetown Reservoir, from Inter-County Constr. Co., Hyattsville, Md., Bid 1, **$66,937.** CD 8/25.

Ga., Columbus—City Bd. Water Comn., W. J. Wood, chn., Sept. 5, filter plant addn., incl. plant, filtration, equip., from Fiske-Carter Constr. Co., Box 509, Greenville, S. C., **$351,100.** CD 8/15—ENR 8/17.

Ill., North Chicago—City, Aug. 28, WW imprvs., 1,150 ft. 20 in. c.i. intake line, from Edward E. Gillen Co., 626 E. Wisconsin Ave., Milwaukee, Wis., **$40,000*****intake construction, settling basins, filters, etc., from Peter Hamlin Co., 9 S. Clinton St., Chicago, **$102,343*****filter equip., pumps, pumping, from Pitt Constr. Co., 1235 Washington Blvd., Pittsburgh, **$49,516*****watermains, from W. E. Huhn, Waukegan, **$23,900.** CD 8/22.

†Md., Towson—Comrs. Baltimore Co., Towson, Aug. 28, installing approx. 3,800 ft. 12 and 16 in. cement lined c.i. pipe from existing watermain in Joppa Rd. to Bendix plant, from Eastern Constr. Co., 224 Albemarle St., Baltimore, **$27,297.** Total est. $83,680. **FWA.**

N. J., Marlboro—Dpt. Institutions & Agencies, State Office Bldg., Trenton, Sept. 6, water treatment plant addns., clearwater basin and pumphouse, at State Hospital, from Newton K. Bugbee & Co., 54 Oakdale St., Trenton, **$19,875.**

Tex.. Houston—City, City Hall, Aug. 30, 12 in. c.i. watermain in Kress St. from Clinton Dr. to Market St., with fittings, valves, etc., from R. P. Farnsworth Co., **Bankers Mtge.** Bldg., **$18,547.** J. Dannenbaum, City Hall, engr.

Tex., Houston—City, Aug. 30, furnishing, installing 6 centrifugal pumps, motors in Southwest Water Pump. Sta., from Southern Engine & Pump. Co., 600 St. Charles St., **$27,406.** CD 8/21.

CONTRACTS AWARDED

†Calif., Benicia—U. S. Eng., 74 New Montgomery St., San Francisco, water supply pipelines, to Yuba Mfg. Co., Job No. 1514-1, from McGuire & Hester, 796-66 Ave., Oakland. **$19,944.**

Conn., Ansonia—Ansonia Water Co., 354 Main St., 15,500 ft. 18 in. asbestos cement watermain, to Clark-Barone Co., 595 Legion Ave., New Haven, **$29,885.** Weston & Sampson, 14 Beacon St., Boston, Mass., engrs.

Ia., Mt. Pleasant—City, J. P. Budde, clk., City Hall, deep well to Thorpe Well Co., 2340 6 Ave., Des Moines, **$39,160.** Bids 8/24. Green Eng. Co., 417 First Ave. S.E., Cedar Rapids, engr.

†Me., Lewiston and **Auburn**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., fire protection water sys., AAF, NOY 9945, to Simonds Constr. Co., Inc., 12 Monument Sq., Portland, **$32,186.** CD 4/21—ENR 4/27.

Mo., Grandview—City, K. K. King, dir., watermains, to Clark Contg. Co., Osage Beach, **$38,277.** Bids 8/22.

O., Galion—City, R. Geiger, service dir., City Hall, filtration plant, to Steinle-Wolfe, Inc., 1515 Croghan St., Tremont, **$196,000;** 14 in. low pressure pipeline, to M. Fatol, Charminel Hotel, Columbus, **$108,000.** CD 8/10—ENR 6/22.

†Pa., Phila.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., well drilling, Navy Yard, NOY 10926 to Layne-New York Co. Inc., 505 Market St., Camden, N. J.

Tex., Denton—City, R. Neale, secy., developing water supply well, to J. L. Myers & Sons, Denton, approx. **$15,000.** Bids 9/1. CD 8/18—ENR 8/24.

Tex.. Houston—City, City Hall, furnishing, auto cone-tyne valves for controlling flow from well pumps and high service pumps in S.W. well field of Houston water Sys., to S. Morgan Smith, York, Pa., **$29,771.** Bids 8/23. CD 8/29—ENR 8/31, under LB.

Tex., Huntsville—State Bd. Control, water facilities, to A. M. Lockett & Co., 1014 Electric Bldg., Houston, approx. **$15,000.**

Ont., Ottawa—Dpt. P. Wks., Ottawa, water tank at Experimental Farm, Carling Ave., to H. A. Wickett Co., Ltd., 156 Front St. E., Toronto, **$42,000.** Bids 8/2. C. D. Sutherland, c/o owner, engr. CD 7/26.

Ont., Welland—City, exten. water sys. from Welland boundaries to John Deere plant, to Scott-Jackson Constr. Co., Ltd., General Delivery, New Toronto, **$25,000.** CD 2/24—ENR 3/9.

Ont., Welland Junction—John Deere Plow Co., Ltd., Welland Junction, water sys., to Scott-Jackson Constr. Co., Ltd., General Delivery, New Toronto, **$26,000.**

SEWERS, WASTE DISPOSAL

PROPOSED WORK

Calif., Anaheim—Orange Co., section joint outfall sanitary sewers, replacing present 27 in. line with 30 in. vitr. clay pipe, $116,433. **FWA.** Koebig & Koebig, Rowan Bldg., Los Angeles, engrs.

†Calif., Hueneme—Federal Works Agency, 1206 Santee St., Los Angeles, sanitary sewerage sys. for 543 war housing units, Calif. 4-660-F. $170,300. S. G. Bennett, 1164 Say Rd., Santa Paula, engr.

SEWERS, etc. (Proposed Work, Cont'd.)

Calif., Los Angeles—Bd. Supervs. Los Angeles Co., Hall of Records, sanitary sewers in Verdun Ave., etc., C. I. 1101, $40,000; vitr. clay sanitary sewers in Motz, Marcella and Jackson Sts., Motz St. Sewer Dist., near Hynes, C. I. 1098, $24,352. A. Jones, Hall of Records, co. engr.

†Calif., San Diego—City Harbor Dpt., City Hall. 6,080 lin. ft. 8- to 24-in. trunk line sewer connecting San Diego Tidelands area to city interceptor sewer. Calif. 4-591-N. $142,000. **FWA.**

†Calif., South Vallejo—Solano Co., approx. 8,300 lin. ft. 18- to 30-in. interceptor and outfall sewer, with necessary manholes, appurtenances, Calif. 4-618-F. $339,500. **FWA.**

Colo., Garden Home (near Denver)—Garden Home Sanitation Dist., 24 mi. sanitary sewer lines, $350,000. Will apply to FWA. B. Louther, Colorado Bldg., Denver, consult. engr. J. M. Standford, Colorado Springs, assoc. engr. CD 3/13—ENR 3/16.

Ga., Savannah—City, sewer lines to Fell Ave. sewer project. $282,500. Applied to FWA. A. S. Goebel, city engr.

†La., New Orleans—Pub. Housing Auth., NHA, 1205 Electric Bldg., 7 and Taylor Sts., Fort Worth, 2, Tex., sanitary sewers, La. 16-266-F. $32,000. **FWA.** Fromherz Associates, 226 Carondelet St., engrs. CD 8/3—ENR 8/10.

†Md., Baltimore—Mayor and City Council, 3,000 lin. ft. 18- to 33-in. sanitary interceptor sewer, Reedbird Ave., Md. 18-219-N. $80,500. **FWA.**

Minn., Shakopee—City, C. T. Dircke, clk., City Hall., sewage disposal plant. $50,000. Toltz, King & Day, 1509 Pioneer Bldg., St. Paul, engrs.

†Pa., Fort Mifflin (sta. Phila.)—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., architect-engineer services by Ballinger Co., 105 S, 12 St., Phila., storm sewer and drainage, Naval Air Station.

†Tex., Kelly Field—U. S. Eng., Fort Sam Houston, sewage disposal plant addn., incl. 50,000 cu. ft. heated sludge digestor and sludge drying beds, etc., No. W-41-154-45-27. Over $25,000.

†Va., Denbigh—Warwick County School Bd., Denbigh, sewage lift pump. sta., incl. equip. and force main, filling, grading, etc., Va. 44[illegible]20-N. $23,900. **FWA.**

Ont., Grand Bend—Municipality, J. Manore, councilman, Grand Bend, sewerage sys. $30,000.

Ont., London—City, exten.. 30 in. concrete interceptor sewer, Colborne St. $38,000. R. Garrett, City Hall, engr.

Ont., Nipigon—Municipality, new septic tanks, drying beds, etc. $25,000. C. Sodergren, Town Hall, engr.

Ont., Toronto—Municipality, force sewage main from city limits to Sunnybrooke Park. $30,000.

Que., Courville—Municipality, L. P. La Plante, clk., sewers. $30,000.

BIDS ASKED

Bids Asked September 22

Wyo., Powell—Town Council, Schedule A, furnishing, installing 20,530 lin. ft. 12-to-24-in. outfall sewer lines within town and outlet line discharging into Bitter Creek approx. 1¾ mi. north from northeast corner townsite; Schedule B, 7,592 lin. ft. 8 and 15 in. sewer lines for benefit of Sanitary Sewer Dist. 2. Plans deposit $15. H. F. Bell, Cody, engr.

Bids Asked September 25

Wis., Wauwatosa—Bd. P. Wks., sanitary relief sewer in casement south of Wisconsin Ave., relaying 18 in. vitr. clay sanitary sewer in W. Meinecke Ave. from N. 83 St. to Swan Bldg. Over $25,000. M. F. Linnan, city engr.

Bids Asked September 26

†Conn., Bridgeport—F. Schwarzkopf, clk. Hy. Com., City Hall. 7,400 lin. ft. 8 to 30-in. trunk sewers, manholes, tide gates, weirs, etc. Contr. 13, Conn. 6-107. Plans deposit $10; adv. ENR 9/14. CD 7/25—ENR 7/27.

Minn., Crosby—Village, H. L. Nicholson, clk., 6,160 lin. ft. 8 in. sanitary sewers, 17 manholes Sewer Dist. 2; 4,685 lin. ft. 8 and 10 in. sanitary sewers, 15 manholes, 1 lift station, Sewer Dist. 6; 600 ft. 8 in., sanitary sewers, 2 manholes, etc., Sewer Dist. 7. $25,000. L. Knudsen, village engr.

Bids Asked October 11

Ill., Springfield — City Comptroller, City Hall, surface water storm sewer in Outer Park Dr. from MacArthur Blvd. to First St. $49,000. L. A. Lush, city engr. CD 4/26—ENR 5/4.

Bids Asked

Tex., Baytown—General Tire & Rubber Co., Baytown, waste disposal plant. $100,000. CD 9/1—ENR 9/7.

LOW BIDDERS

Calif., Long Beach—City, City Hall, Aug. 30, sanitary lateral sewer in Sewer Dist. 13-D-1, Spec. R-1402, from T. L. Gogo, 10024 S. Figueroa St., Los Angeles, **$28,352.**

Calif., Los Angeles—City Bd. P. Wks., City Hall, Sept. 6, 7,021 ft., 6 and 8 in. vitr. clay sewers in Riverton Dr. and Denny Ave. Sewer Dist., from R. A. Wattson Co., 5528 Vineland Ave.. **$27,324** est. $19,749***8,670 lin. ft. 8 in. standard vitr. clay sanitary sewer in Dist. 13E-1, Spec. No. R-1403, from J. E. Popovich, Box 261, Torrance, **$28,150*****rein.-con. drainage structures and rein.-con. blanketing existing sewer, etc., from Oberg Bros., 401 W. Redondo Blvd., Inglewood, **$67,074.** L. Aldrich, City Hall, engr.

Colo., Denver—City, portion of East Side Sanitary Sewer Dist. 3 from M. R. Latimer, 7 and Navajo Sts., **$30,191.** CD 8/30—ENR 8/31.

D. C., Wash.—District Comrs., District Bldg., Aug. 31, storm water sewer, vicinity 30 St. and Buena Vista Terrace S.E., D. C. 49-172-N, from R. Lombardi, Real Estate Trust Bldg., Phila., Pa., **$49,255.** CD 8/28.

Ill., Chicago—J. M. Whalen, chn. Finance Com., Sanitary Dist. of Chicago, 910 S. Michigan Ave., Aug. 31, altering steam generating unit No. 1, etc., Southwest Sewage Treatment Works, Div. A. L., from Independent Boiler & Tank Co., 1249 N. Clark St., **$318,925**; addnl. sludge lagoons at Calumet Sewage Treatment Works, Contr. 44-45 (CL-P), from Palumbo Excavating Co., 2738 W. Harrison St., **$28,600.** CD 8/16 and 8/22—ENR 8/24.

Tex., Austin—City, W. E. Seaholm, acting mgr., City Hall, Sept. 6, storm sewer in Kinney, Virginia and Ashby Aves., from H. Page, Georgetown Rd., **$37,683.** CD 8/22—ENR 8/24.

Wash., Seattle—City, County-City Bldg., Zone 4, Aug. 31, sewers 5 Ave. N.E., etc., from L. Coluccio Co., 512 21 Avenue S, **$46,741.** Est. $52,370. CD 8/23.

CONTRACTS AWARDED

†O., Cincinnati—U. S. Eng., 522 U. S. Post Office & Courthouse, constructing McLean Ave. sewer diversion, Contr. W-33-015-eng-535, to Drainage Contractors, Inc., 14375 Schaefer St., Detroit, Mich., est. **$207,835.**

O., Cleveland—City, F. Foy, purch. agt., City Hall, sewers, Wichita and Bucyrus Aves., to D. M. Sylvester and Di Paolo Const. Co., 1424 Lakeview Rd., **$31,922.** Bids 8/24. CD 6/20—ENR 6/22.

Va., Richmond—City, Dpt. P. Wks., Goode's Creek sanitary and outfall sewer and Jefferson Davis Memorial Hy. sewer, to Hughes & Keegan, 1726 Altamont Ave., **$61,705.** Bids 9/4.

BRIDGES

PROPOSED WORK

Arkansas—State Hy. Dpt., Little Rock, rejected bids Aug. 30, bridge over Little Red River at Higden, Cleburne Co.; bridge over White River at Beaver, Carroll Co.; low-water type bridge on Garfield-Eureka Springs Rd., Benton Co. Will readvertise. W. W. Mitchell, state hy. engr. CD 8/21—ENR 8/24.

O., Barberton—City Council plans $110,000 bond election November for repairing Tuscarawas Ave. and Wooster Rd. viaducts.

Pennsylvania—Dpt. Hys., J. U. Shroyer, secy., Harrisburg, widening 3 bridges over Pennsylvania & Reading R. R. tracks, and imprv. adjacent roads on Hy. Route 36040 directly adjacent to Lancaster, etc.

Ont., Linwood—Wellesley Twp., J. Himberels, clk., Linwood, bids early in 1945, bridge, Kingwood Dist. $35,000.

Que., Montreal—Municipality, J. A. Mongeau, city clk., tunnel under Wellington St. at Hibernia St. through to Marguerite Bourgeois Park. $30,000.

BIDS ASKED

Bids Asked September 27

†Alaska, Ketchikan—Pub. Roads Admin., Federal and Territorial Bldg., Juneau, 0.028 mi. steel bridge, Stedman St. **FWA.** Plans deposit $10. CD 4/24—ENR 4/27.

LOW BIDDERS

Illinois—State Div. Hys., Springfield, Sept. 1, rein.-con. girder bridge, Sect. 17 R-B, McLean Co., from Fairview Constr. Co., 362 Citizens Bldg., Decatur, **$49,771.** Est. $25,000. CD 8/22—ENR 8/24, under Roads.

Iowa—State Hy. Comn., Ames., Sept. 5, 26x120 ft. continuous I-beam bridge and concrete paving 0.215 mi. Bremer Co., from Welden Bros., Iowa Falls, **$54,880.** CD 8/25—ENR 8/31.

Louisiana—State Hy. Dpt., Baton Rouge, bridge, Terrebonne Parish, from Robinson & Young, Louisiana National Bank Bldg., Baton Rouge **$136,901.** CD 8/22—ENR 8/24.

Missouri—State Hy. Comn., Jefferson City, Sept. 1, bridge over Missouri River, Jackson Co., from J. A. Tobin Constr. Co., 3700 Rainbow St., Kansas City, Mo., **$33,972*****bridge Route 71, Proj. SN-FAGH 146 B-1, Jackson Co., from J. M. Roark, Anderson, **$44,452.** CD 8/22—ENR 8/24.

CONTRACTS AWARDED

Maryland—State Roads Comn., Baltimore, steel beam bridge over Route 704, at Dodge Park, Landover Largo Rd., Prince Georges Co., to McGuire & Rolfe, 1 and 0 Sts. S.E., Wash., D. C., **$51,906.** Bids 8/22.

STREETS AND ROADS

PROPOSED WORK

Puerto Rico—Insular Emergency Council, San Juan, approved War Emergency Program to reconstruct existing farm-to-market roads, as follows: 2.31 mi. kms. of Aguas Blancas, **Yauco,** $92,000, 2.94 kms. secondary road, "Quebrada Arenas Saliente," **Vega Baja,** $77,000, 3 kms. secondary road, **Loiza,** $65,200, 3 kms. secondary road, **Carolina,** $60,000, 1.426 kms. Cibuco Secondary Rd., **Corozal,** $37,500, 1.958 kms. Rabanal Secondary Rd., **Aibonito,** $33,000, 2.07 kms. secondary road, **Juncos,** $27,000, Insular Dpt. of Interior, San Juan sponsors foregoing projects; imprv. 4.2 kms. Quebradillas-Guajataca Rd., **Quebradillas,** $7,350, Municipality of Quebradillas is sponsor; reconstructing main road crossing University Grounds, at **University of Puerto Rico,** $7,095, University of Puerto Rico, is sponsor.

BIDS ASKED

Bids Asked After September 15

Tex., University Park (P. O. Dallas)—City, grading, filling, concrete paving, concrete curbs and gutters, on Preston Rd. $105,600.

Bids Asked September 18

N. Y., New York—President Manhattan Boro, Municipal Bldg., Zone 7, recurbing (Contr. 5) setting, resetting curb at various locations.

Ont., Scarborough — J. T. Stewart, clk. Twp. of Scarborough, 1660 Kingston Rd. grading. $25,000. E. M. Baird, 1683 Kingston Rd., engr.

Bids Asked September 19

Iowa—State Hy. Comn., Ames, maintenance resurfacing 6.9 mi. Iowa 184, Project M-4317, Fremont Co.; 9.8 mi. U.S. 59, Project M-4316, Mills Co.; 11.6 mi. Iowa 208, 1 mi. Iowa 343 and 12.8 mi. U.S. 59, Project M-4318, Page Co.; 13.9 mi. Iowa 13, Project M-3333, Plymouth and Sioux Counties; maintenance culvert repairs 12 projects on 92 across Adair and Cass Counties, Project M-4292; 10 culvert repair jobs Iowa 2 and 148, Project M-4294, Taylor Co.; maintenance channel change, Iowa 14, Project M-3332, Monona Co.; bank protection along east side of Iowa 64, Project FN-309, Pottawattamie Co. Est. under $25,000 each. F. R. White, Ames, ch. engr.

Bids Asked September 20

Ill., Chicago—Clerk Cook Co., 535 County Bldg., bituminous plant mix surfacing 0.5798 mi., 3 rein.-con. box culverts on Proj. 148-0202.1-MFT, over $25,000. Plans deposit $10 each; bituminous concrete paving 1.6933 mi. Proj. 053-4040-MFT, 1.5061 mi. Proj. 053-3738-MFT, 1.5075 mi. Proj. 053-3839-MFT, 1.9692 mi. Proj. 020-0809-MFT, over $25,000. Plans deposit $10 each. G. A. Quinlan, co. supt.

Louisiana—Dpt. Hys., D. Y. Smith, dir., Baton Rouge, 3,500 cu. yd. sand clay gravel (Grade B), surfacing material furnished, spot dumped on Merryville Neal Oil Field Rd., Ward 2, S.P. 703-00-90, Beauregard Parish.

Bids Asked September 25

Ia., Garner — Bd. Supervs. Hancock Co., crushing, stockpiling 35,000 cu. yd. gravel from 5 pits. Over $25,000. C. F. Merton, co. engr.

Bids Asked

Colorado—State Hy. Dpt., Denver, 5 mi. grading, gravel surfacing, installation culverts on State Hy. 62, Proj. SI FAP 103-H (1) beginning 5 mi. east of Placerville, San Miguel Co.

Iowa—State Hy. Comn., Ames, received no bids Sept. 5, imprv. 4.1 mi. Proj. M-4313, Decatur Co.; 3.8 mi. Proj. M-5268, Henry Co.; 3.5 mi. Proj. M-4314, Ringgold Co.; roadside erosion control Project FN-820-A (1), Muscatine Co. CD 8/25—ENR 8/31.

LOW BIDDERS

†California—Pub. Roads Admin., Phelen Bldg., San Francisco, Aug. 31, imprv. 3.152 mi. Monterey Co., from Granite Constr. Co., Box 900, Watsonville, **$51,381.** CD 8/22.

California — State Div. Hys., 808 State Bldg., Los Angeles, Aug. 31, imprv. 4.7 mi. San Diego Co., from Basich Bros. Constr. Co., 600 S. Fremont Ave., Alhambra, **$234,229.** CD 8/11—ENR 8/17.

California — State Div. Hys., 808 State Bldg., Los Angeles, Sept. 7, imprv. 2.3 mi. Los Angeles Co., from Griffith Co., 1060 S. Bway., Los Angeles, **$64,343**; 3.6 mi. San Diego Co., from Basich Bros. Constr. Co., 600 S. Fremont St., Alhambra, **$158,310.** CD 8/18—ENR 8/24.

Calif., San Francisco—San Francisco Dpt. P. Wks., City Hall, repairing Evans Ave. between Third and Mendell Sts., Newhall St. between Evans and Fairfax Aves., Spec.

STREETS, etc. (Low Bidders, Cont'd.)

19834, from Fay Imprvt. Co., 760 Market St., **$28,418.** J. J. Casey, city engr.

Connecticut—State Hy. Dpt., Hartford, Sept. 5, grading, drainage, paving in Stratford, from Mariani Constr. Co., 222 Forbes Ave., New Haven, **$57,748;** paving, rail removal, in Ansonia, from Silliman Co., 945 Main St., Bridgeport, **$33,588.** CD 8/31.

★**Illinois**—State Div. Hys., Springfield, Sept. 1, imprv. 6.41 mi. Sect. 16R, S.N.-F.A. 26(16)2, from J. C. O'Connor & Sons, Inc., 2104 Miner St., Fort Wayne, 6, Ind., **$421,380*****1.75 mi. Sect. 17-RA, from Jansen & Schaefer, 212 N. Capitol St., Pekin, **$159,416*****4.08 mi. Sect. 17 R, from I. D. Lain Co., 500 E. Capitol St., Springfield, **$359,200,** both S.N.-F.A. 26(17)(2), all McLean Co. CD 8/22—ENR 8/24.

Illinois—State Div. Hys., Springfield, Sept. 1, crushed stone surface course on 9.1 mi. Sect. 218 G-1, F.A.S. Route 727, Dist. 8, from Louis Marsch, Morrisonville, **$61,886.**

Ill., Carlyle—J. T. Goldsmith, supt. Hys. Clinton Co., County Bldg., Sept. 1, imprv. 2.8936 mi. Project 8-MFT, from Charles Mayes & Co., Albion, **$63,495.** Est. over $25,000. CD 8/22—ENR 8/24.

Ill., Chicago—City Clerk, City Hall, 32,700 sq. yd. 44 ft. concrete pavement, 86,000 sq. ft. concrete sidewalks, 12,600 lin. ft. comb. concrete curbing and guttering, 8,500 cu. yd. special excav., SA 174-0506, for City, from Calumet Coal Co., 9540 Marquette Ave., **$169,663.** O. E. Hewitt, comr. P. Wks.

Louisiana—State Hy. Dpt., D. Y. Smith, dir., Baton Rouge, Aug. 31, imprv. 2.057 mi. Beauregard Parish, from W. R. Aldrich & Co., Kalwrah University Gardens, Baton Rouge, **$41,030.** CD 8/22—ENR 8/24.

Maryland—State Roads Comn., Baltimore, Sept. 5, imprv. 2.339 mi. Worcester Co., and 3.462 mi. Dorchester Co., from Williams Constr. Co., Middle River, **$185,276** and **$264,250** respectively. CD 8/22—ENR 8/24.

Mass., Boston—P. Wks. Dpt., City Hall, Aug. 28, imprv. Alvah Kittredge Park, etc., from C. Capone, 44 Wellsmere Rd., Roslindale, bit. mac. base **$31,610.** CD 8/18—ENR 8/24.

Mass., Boston—P. Wks. Dpt., City Hall, Aug. 29, imprv. Cottage, Emmons, Marion, Maverick, Moore, New, Prescott, White and Wadsworth Sts., East Boston, from M. De Matteo Const. Co. Inc., Hancock St., Quincy, bit. macadam base **$48,428.** CD 8/18—ENR 8/24.

Mass., Boston—Dpt. P. Wks., City Hall, Sept. 6, imprv. Amherst St., etc., from Baker & Co., 1335 Hyde Park Ave., Hyde Park, bit. mac. base **$33,936.** CD 8/25—ENR 8/31.

Missouri—State Hy. Comn., Jefferson City, Sept. 1, imprv. 0.568 mi. McDonald Co., from Gillioz Constr. Co., P. O. Box 20, Monett, **$61,417.** CD 8/22—ENR 8/24.

N. C., Carolina Beach—A. E. Peay, mayor, Aug. 29, Sect. 1, 11,075 cu yd. sand removal, 1,900 cu. yd. gravel on shoulders, 9,850 cu. yd. gravel on streets, 550 sq. yd. surface treated patching, 100 lin. ft. 12 in. concrete pipe, from E. H. Hines, Greenwood, S. C., **$25,071.** CD 8/22—ENR 8/24, under Unclassified.

†**Oklahoma**—U. S. Eng., 231 W. Main St., Denison, Aug. 28, completing relocating U.S. Hy. 70 between Mead and Kingston, from Brazos Valley Constr. Co., Mineral Wells, Tex., **$225,046.**

Pennsylvania—J. U. Shroyer, secy. Dpt. Hys., Harrisburg, Aug. 29, imprv. 0.85 mi. Cambria Co., from G. H. Yoxtheimer, Northumberland, **$85,776.** CD 8/21—ENR 8/24.

S. C., Charleston—H. M. Lilienthal, city purch. agt., City Hall, Aug. 31, installing 40,000 lin. ft. concrete curbing, various streets Northwest Paving Dist., from J. W. Johnson & Son, 146 Grove St., **$25,000.** CD 8/22—ENR 8/24.

Tennessee—State Hy. Dpt., Nashville, Sept. 1, imprv. 1.447 mi. Davidson Co., from Wm. F. Bowe & Co., Augusta, Ga., **$410,799;** 0.517 mi. Gibson Co., from C. Walker, 242 Madison St., Memphis, **$42,148.** CD 8/15—ENR 8/17.

Tex., Denton—City, asphalt paving 6,100 ft., from O'Neal Constr. Co., 901 S. Austin St., Dallas, approx. **$27,000.**

†**Wash., Renton**—Pub. Housing Auth., NHA., Skinner Bldg., 5 Ave. and Union St., Zone 1, Seattle, Sept. 7, surfacing roads at housing, from Western Asphalt Co., 209 W. 39 St., Seattle, **$93,509.**

West Virginia—State Road Comn., Charleston, Aug. 15, imprv. 2.9 mi. Secondary Route 11, from Amos Constr. Co., Clarksburg, **$30,067;** 5.2 mi. Saltwell Rd., from J. M. Francesa & Co., Fayetteville, **$50,931,** both Harrison Co. CD 8/7—ENR 8/10.

West Virginia—State Road Comn., D. McClaugherty, secy., Charleston, Aug. 29, imprv. 1.295 mi. Kanawha Co., from Smith Constr. Co., Huntington, **$478,713.** Received no bids Aug. 29, imprv. 4 mi. Harrison Co. CD 8/22—ENR 8/24.

CONTRACTS AWARDED

Arkansas—State Hy. Dpt., Little Rock, imprv. 4.252 mi. Pulaski Co., to Ben. M. Hogan Co., 115 N. Spring St., Little Rock, **$88,670.** CD 8/21—ENR 8/24.

Florida—State Road Dpt., Tallahassee, imprv. 3.145 mi. Madison and Suwannee Counties, to W. H. Armston Co., Inc., Dunedin, **$36,425*****5.794 mi. Marion Co., to L. J. and W. L. Cobb, Inc., 1102 22 St., Tampa., **$89,698*****1.113 mi. Clay Co., to Duval Engr. & Contr. Co., foot of Adams St., Jacksonville, **$36,381*****4.434 mi. Broward Co., to R. H. Wright & Son, 1st Natl. Bank Bldg., Columbus, Ga., **$68,719*****38.826 mi. Franklin and Gulf Counties, to R. T. Gordon, 2077 W. Beaver St., Jacksonville, **$25,569***** 37.583 mi. Bay Co., to Coggin & Deermont, Chipley, **$25,285.** Grand total $282,077. Bids 8/29. CD 8/15 and 8/23—ENR 8/17.

Georgia—State Hy. Dpt., Atlanta, imprv. 4.1 mi. Washington-Thomason Rd., Wilkes Co., to W. L. Cobb, Inc., Decatur, **$28,109;** 6.1 mi. Reidsville-Lyons Rd. and 3.3 mi. Glennville-Ludowici Rd., Tattnall Co., to E. A. Logan & Co., Rochelle, **$28,582.** Bids 9/1.

Ill., Litchfield — City, C. F. Zubers, clk., furnishing, spreading 43,443 gal. MC-2 asphalt and 1,241 tons ⅜ in. blotter aggregate, to Bituminous Fuel & Oil Co., 320 N. 4 St., East St. Louis, **$39,122.**

Ill., Springfield—Sangamon Co., bituminous surfacing together with gravel or crushed stone base course on 1.36 mi. Sect. 60 M.F.T., S.A. Route 3J, to Sangamo Constr. Co., 700 N. Mac Arthur St., **$34,927.** Bids 9/7.

Ia., Hampton—Bd. Supervs. Franklin Co., surfacing various secondary roads, to Maudlin Constr. Co., Webster City, **$25,889.** Bids awarded 8/28. CD 8/18.

Kan., Olathe—City, A. W. Reitz, clk., asphalt resurfacing streets, to Reno Constr. Co., Overland Park, **$30,000.** Bids 8/28. C. Payne, city engr.

Mo., Kansas City—City, K. K. King, dir. P. Wks., asphaltic concrete wearing surface, Prospect Ave. from Swope Parkway to 75 St., to Bowen-Shaw Paving Co., 1914 Highland St., **$67,365.**

†**Tex., Benbrook**—U. S. Eng., 231 W. Main St., Denison, paving parking area, access road, Aircraft Plant 4, Contr. W-41-242-eng-308, to Texas Bitulithic Co., 111 Commerce St., Dallas, **$41,983.**

Tex., Dallas — Street imprvs., drainage structures, Shorescrest Dr., to Texas Bitulithic Co., 111 W. Commerce St., **$35,184.**

Tex., Lampasas—23 blocks asphalt paving, 17 blocks asphalt seal coating, to Holland Page, Georgetown Rd., Austin, **$31,000.**

Tex., Velasco — Concrete curbs, gutters, sidewalks, to L. H. Lacy Co., 3009 N. Henderson St., Dallas, **$25,000.**

West Virginia — State Roads Comn., Charleston, imprv. 5.6 mi. Harrison Co., to Keeley Constr. Co., Clarksburg, **$68,988,** awarded 8/23; 1.613 mi. McDowell Co., to Veceillio & Grogan, Beckley, **$352,542,** awarded 9/1. Bids 8/22. Received no bids Aug. 22, imprv. Proj. 6556, Item 9; Proj. 5360, Item 17, both Harrison Co.; Proj. 5501, Item 18, Marion Co., all DARM 41-A(1) Army. CD 8/14—ENR 8/17.

West Virginia—State Road Comn., Charleston, imprv. 6.1 mi. Pocahontas Co., to Abbot Constr. Co., Capitol & Piedmont Rd., Charleston, **$30,043.** Bids 8/29. CD 8/22—ENR 8/24.

Man., St. Boniface—Replacing 12 mi. wooden sidewalks with concrete walks, day labor. **$66,605.** J. A. Bibeau, City Hall, municipality supt. and engr.

North West Territory — Dominion Govt., Ottawa, Ont., 3 mi. road between Yellowknife and airfield, day labor. **$35,000.** Dpt. Mines & Resources, Ottawa, Ont., engrs.

Nova Scotia—Province of Nova Scotia, Halifax, reconstructing road at Chibucto Head and Arm Bridge, day labor. **$35,000** voted. Dpt. Hys., Halifax, engr.

Ont., Port Arthur—City, W. V. McComber, clk., asphalt paving streets, to Hewitson Constr. Co., Ltd., 7 Walsh Blk., **$37,431.**

Ont., Swansea — Village, C. C. Downey, reeve, 83 De Forest Rd., asphalt paving Brule Gardens and Cres., to Godson Contg. Co., Ltd., 203 Richmond St., Toronto, **$35,928.** G. A. MacDonald, 15 Morningside Ave., Toronto, engr.

★**Ont., Toronto** — de Havilland Aircraft of Canada, Ltd., Sheppard Ave., diversion road to replace Dufferin St. about 2,000 ft. east between Wilson and Sheppard Aves., exten. runway and taxi strip sys. and drainage, etc., to Geo. W. Porter Const. Co. Ltd., Harbour Commissioners Bldg., **$600,000.** D. Shepherd, 57 Bloor St. W., engr.

Que., Montreal—Municipality, c/o J. A. Mongeau, city clk., concrete sidewalks, various streets, day labor. **$30,000.**

Que., Shawinigan Falls—City, J. A. Bilodeau, mayor, constructing various pavements, sidewalks, etc., to Page Equipment & Const. Co., Ltd., 1497 Craig St., Three Rivers, **$80,000.** E. A. Delisle, c/o owner, engr.

EARTHWORK, WATERWAYS

BIDS ASKED

Bids Asked After September 12

Tex., Brownsville—Cameron Co. Irrigation Dist., c/o C. L. Hunter, mgr., ground water storage reservoir, $60,000. CD 8/28—ENR 8/31.

Bids Asked September 19

†**Missouri** — U. S. Eng., P. O. Box 97, Memphis, Tenn., placing approx. 1,700 cu. yd. rip rap stone on riverside slope of levee and adjacent area, Philadelphia Point; approx. 1,500 cu. yd. rip rap stone on riverside slope of levee and adjacent area, Dogtooth Bend.

Bids Asked September 22

Nebraska—Central Nebraska Public Power & Irrigation Dist., C. B. Miller, pres., R. O. Canaday, secy., Hastings, completing construction riprap on upstream slope of Kingsley Dam and abutments, Group 28D-2, Keith Co.; adv. ENR 9/14.

Bids Asked September 23

†**Neb., Hemingford** — Bureau Reclamation, Dpt. Interior, W. R. Young, acting ch. engr., Hemingford, constructing **Dunlap Diversion** Dam, Mirage Flats project, 12 mi. northeast of here. Spec. 1767-D.

Bids Asked September 26

†**Arkansas** — U. S. Eng., P. O. Box 60, Vicksburg, Miss., approx. 1,096,000 cu. yd. earth work and one 36 in. siphon for drainage purposes on south bank Arkansas River, Sol. No. 22-052-45-20.

Bids Asked October 2

†**Washington**—At office Bureau Reclamation, W. R. Young, acting ch. engr., Denver, Colo., furnishing, del. f.o.b. cars shipping point or f.o.b. Odair, caisson barge and auxiliary hoists for maintenance of spillway bucket, Spec. 1763-D, miter-gate operating mechanism for drydock, maintenance of spillway bucket, Spec. 1764-D, all at Grand Coulee Dam, Columbia Basin Project. Extended date. CD 8/23—ENR 8/31.

Bids Asked

†**Texas**—U. S. Eng., 25 St. and Avenue F, Galveston, dredging, removing 484,000 cu. yd. material for distance 18,200 lin. ft. from Cedar Bayou, Chambers and Harris Counties. $286,000.

LOW BIDDERS

†**California**—U. S. Eng., 1209 8 St., Sacramento, Zone 8, Sept. 6, approx. 6 mi. levee enlargement 4 mi. upstream from Western Pacific R.R. on Bear River and along Dry Creek and Western Pacific Intercepting Channel, Yuba and Sutter Counties, Spec. 945, from H. Earl Parker, 310 Eye St., Marysville, **$268,486.** CD 8/25.

Idaho—Salmon River Canal Co., Ltd., Hollister, Sept. 5, 3.36 mi. main canal, 3.15 mi. coulee imprvs., 8.7 mi. laterals, several small timber bridges, concrete headgate, etc., from Morrison-Knudsen, Inc., 319 Bway., Boise, **$101,485.**

†**La., Abbeville**—U. S. Eng., foot of Prytania St., New Orleans, Aug. 30, excavating approx. 2,350,000 cu. yd. channel excav., Solic. No. 16-047-45-3, Vermilion Parish, from McWilliams Dredging Co., Hibernia Bldg., New Orleans, **11.93c.** per cu. yd. CD 8/25—ENR 8/31.

Michigan—State Hy. Dpt., Lansing, Aug. 30, 455 ft. quarry rock shore protection on M-20, 1 mi. north Muskegon Breakwater, Muskegon Co., from Holthe's Marine Constr. Co., Muskegon, **$42,877.** F. J. Halliday, 1425 Linwood St., Grand Rapids, engr. CD 8/23.

†**Ore., Bend**—Bureau Reclamation, Dpt. Interior, Bend, Sept. 6, excav., backfill, overhaul, rock fills, dumped rip rap, dry-rock paving, etc. for Unit 3 Cove Power Plant, Deschutes Project, Spec. 1079, from C. J. Montag & Sons, 429 S.W. 4 St., Portland, **$122,967.** CD 8/18—ENR 8/24.

†**Tex., Galveston**—U. S. Eng., 25 St. and Avenue F, Sept. 2, dredging approx. 19,888 lin. ft. Galveston Channel, removing approx. 4,800,000 cu. yd. material, from Standard Dredging Co., 320 Cotton Exchange Bldg., approx. **$210,240.**

†**Tex., Port Arthur**—U. S. Eng., 25 St. and Avenue F Galveston, Sept. 7, dredging approx. 1,800,000 cu. yd. material from Sabine-Neches Channel, near here, from McWilliams Dredging Co., Hibernia Bldg., New Orleans, La., at **7.61c** per cu. yd., total approx. **$136,000.** CD 8/29—ENR 8/31.

CONTRACTS AWARDED

†**Fla., Inglis** — U. S. Eng., 575 Riverside Ave., Jacksonville, Zone 2, excavation for easing bends in Withlacoochee River between mouth of River and here, Cont. W-08-123-Eng. 524, to Hendry Corp., Rattlesnake, **$45,101.** Awarded 8/29.

†**Illinois**—U. S. Eng., 816 U. S. Courthouse & Customhouse, St. Louis, 2, Mo., placing approx. 260,000 cu. yd. earth and repairing approx. 52,500 lin. ft. eroded levee slopes in repairing levees along Mississippi River in Brown and Pike Counties, Negotiation No. 23-065-45-14, to McClanahan Bros., 720 Luckystone St., Glendale, St. Louis, 19, Mo., approx. **$124,000.**

†**Indiana**—Dpt. Agriculture, 14 St. and Independence Ave. S.W., Wash. 25, D. C., right-of-way, excavating and main ditch, etc., Lake, McClellan and Colfax Twp., to A. M. Skinner Co., Morroeco, **$22,232.**

Iowa—Bd. Supervs. Harrison Co., Logan, and Pottawatamie Co., Council Bluffs, Sect. 3, drainage, to Council Bluffs Constr. Co.

EARTH WORK, etc. (Contracts Awarded Cont'd.)

and P. O. Duvahl, Logan, **$15,200.** Bids 8/22. CD 8/11—ENR 8/17.

†Tex., Corsicana—U. S. Eng., 231 W. Main St., Denison, 60,000 cu. yd. embankment, levee repairs, etc., Sol. 41-242-45-16, to E. W. Hable, Corsicana, **$38,215.**

LATIN AMERICA

Argentina—Republic of Argentina, c/o Ministry of Agriculture, Buenos Aires, plans developing sodium carbonate and potassium salts and plant construction, **Salinas Chicas,** province of Buenos Aires, 1,000,000 pesos voted for 1944-45, Dpt. Mines, Geology & Hydrology, Buenos Aires, engr.; Republic of Argentina, Buenos Aires, plans public bldgs., **Buenos Aires,** 1,176,000 pesos voted 1944-45, General Dpt. of Architecture, Buenos Aires, engr.; Republic of Argentina, plans by National Bd. Educ., Buenos Aires, 54 primary schools, **Buenos Aires,** 3,450,000 pesos voted for 1944-45 construction; Republic of Argentina, will construct national parks development in **Buenos Aires,** by day labor, **3,000,000** pesos voted for 1944-45, Dpt. Natl. Parks, Buenos Aires, engr.

Argentina, Chaco—Republic of Argentina, Buenos Aires, plans 150 dwellings. 1,000,000 pesos voted for 1944-45. General Department of Industries, c/o Ministry of Agriculture, Buenos Aires, archt.

British Honduras, Belize—Government of British Honduras, Belize, plans airfield imprvs. $443,000. Colonial Development & Welfare Bd., Belize, engr.

Chile, Calama—Republic of Chile, plans exten. water pipeline to source of supply in mountains, steel flumes, Tocopilla region. **$400,000.**

Haiti, Port-au-Prince—Republic of Haiti, plans cotton textile mill.

Jamaica, Kingston—Aluminum Ltd., Kingston, plans developing bauxite properties. $300,000.

Mexico, Atizapan—Mexican Government, Comision Nacional de Irigacion, plans dam to irrigate 50,000 acres. $250,000.

Mexico, Cardenas — Petroleus Mexicanos (Pemex) Mexico City, will construct 12 in. crude oil pipeline carrier between Cardenas and San Luis Potosi, by force-account, purchase and hire. **$286,000.**

Mexico, Mexico City — Mexican Government, Scrita de Educacion Publica, Mexico, D. F., plans high school. $75,000. Mexico Jewish Colony, Isaac Warman, rep., will finance.

Mexico, Monterrey—Mexican Government, Scrita de Communicacions y Obras Publicas, Mexico, D. F., plans flood prevention works along Santa Catarina River in Monterrey Sector. $1,700,000. CD 5/31—ENR 6/8.

Mexico, Piedras Negras—State of Coahuila, Governor Benecio Lopez Padilla, Torreon, takes bids within 90 days for construction irrigation dam in Villa de Fuente sector, near here. $250,000.

Nuevo Leon—State Government, Palacio del Estado, Monterrey, N. L., Prof. Luis Tijerina Almaguer, Nuevo Leon, education chief, plans 100 grade and high schools in 1945 on pro rata costs basis with Federal Government. $500,000.

Peru, Huanhacolpa—Banco Minero, Huanhacolpa, plans 150 ton flotation plant to handle lead, silver, zinc ores, in Dept. of Huancavelica. $100,000.

Yucatan, Merida—State, Governor Ernesto Nevelo Torres, will take bids in November, constructing 2 plants for production of cellulose from henequen. $400,000.

PUBLIC BUILDINGS

PROPOSED WORK

†Calif., El Centro—Pub. Housing Auth., NHA, 785 Market St., San Francisco, 50 portable shelter units, Calif. 4883.

†Calif., Inyokern—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., recreation bldg. Calif. 4-651-F. $75,000. **FWA.**

†Calif., San Francisco—West Bay—Pub. Housing Auth., NHA, 785 Market St., San Francisco, 26 family dwelling units, Calif. 4885.

†Calif., Tule Lake—Grandview Elementary School Dist. of Modoc Co., 1 story school, Calif. 4-661-F. $6,400. **FWA.**

†Conn., Berlin—Pub. Housing Auth., NHA, 24 School St., Boston, Mass., bids soon grading, site work, war housing, Conn. 6036. J. F. Whitney, Belden Hill, Wilton, archt.

†Conn., Bristol—Pub. Housing Auth., NHA 24 School St., Boston, Mass., making plans grading, site imprvs., war housing.

★**†D.C., Wash.**—Georgetown College, 37 and O Sts. N.W., 400 bed hospital on college site at Reservoir Rd. and 37 St. N.W. $1,400,000. **FWA.**

★**†D.C., Wash.**—George Washington University, 2029 G St. N.W., 400 bed hospital, incl. site, land imprvs., Washington Circle vicinity. $2,700,000. **FWA.**

†D. C., Wash.—Pub. Housing Auth., NHA, 1201 Connecticut Ave. N.W., Zone 25, 15 family stop-gap dwelling units, D. C. 44327.

†Fla., Banana River—Pub. Housing Auth., NHA, Georgia Savings Bank Bldg., Peachtree and Broad Sts., Atlanta, Ga., 100 family stop-gap dwelling units, Fla. 8285.

★**†Ill., Chicago**—Bd. Educ. 228 N. La Salle St., Gillespie and Doolittle Schools, addns., Raymond, Olcott and Myrtle, and 99th and Luella Schools, Ill. 11-324—N. $1,019,408. **FWA.**

†Ill., Cottage Hills—Community Consolidated School Dist. 152, 1 story school, Ill. 11-326-N. $61,850. **FWA.**

†Ill., Zion—School Directors of District 3, Lake Co., 1 story, bsmnt. school addn., Ill. 11-321-N. $17,000. **FWA.**

†Ind., Clay Twp.—Clay School Twp. of St. Joseph Co., school, Ind. 12-208-N. $74,400. **FWA.**

★**†Ind., Indianapolis** — General Motors Corp., General Motors Bldg., Detriot, Mich., addnl. work at plant. $2,500,000. Defense Plant Corp. will finance.

†Kan., Eudora—U. S. Eng., 10 E. 17 St., Kansas City, Mo., plans by Neville & Sharp, 1221 Baltimore St., **Kansas City, Mo.,** commercial center at Sunflower Village, near here. $135,000.

†Kan., Kansas City—Douglas Hospital, F. E. Kitchén, supt., 27 and Grant Sts., bids soon remodeling hospital, Kan. 14-254. $160,000. **FWA.** Bloomgarten & Frohwerk, 512 Fidelity Bldg., 9 and Walnut Sts., archts. W. L. Cassell, 912 Baltimore, mech. engr. CD 1/11—ENR 1/13.

†Md., Baltimore—James Distillery, Inc., 807 Key Hy., expanding plant. $40,000. Defense Plant Corp. will finance.

†Mich., Detroit—Pub. Housing Auth., NHA, 2073 E. 9 St., Cleveland, 15, O., plans by E. Smith, 13700 Woodward Ave., Zone 3, 1,000 unit temporary family dwellings, Mich. 20237. CD 7/19—ENR 7/27.

†Mich., Muskegon—Pub. Housing Auth., NHA, 2073 E. 9 St., Cleveland, 15, O., plans by Harley, Ellington & Day, 1507 Strohs Bldg., Detroit, 60 unit mobile housing, Mich. 20236. CD 7/19—ENR 7/27.

†Mich., Nankin Twp. (Wayne Co.)—School Dist. 7, Nankin Twp., school, Mich. 20-364-F. $120,900. **FWA.**

†Mich., Waterford—Twp., J. C. Covert, school supt., plans by F. D. Madison, 230 Wayne-Oakland Bank Bldg., Royal Oak, brick, steel, concrete school. $150,000. **FWA.**

†Mich., Wayne—Pub. Bldgs. Admin., 18 and F Sts. N.W., Wash., 25, D. C., withdrew bids to have been opened Sept. 5, 1 story recreation bldg., Mich. 20-335. **FWA.** CD 8/22—ENR 8/24.

Miss., McComb—City School Bd. and Secy., McComb, plans by E. L. Malvaney, Millsaps Bldg., Jackson, high school. Est. about $300,000. CD 12/15—ENR 12/23.

Miss., Pascagoula—Pascagoula Rural Separate School Dist., T. R. Wells, supt., plans by Hedrick & Lindsley, Inc., 711 Main St., Houston, Tex., Junior High School. $150,000.

†Miss., Pascagoula—Pub. Housing Auth., NHA, Georgia Savings Bank Bldg., Peachtree and Broad Sts., Atlanta, 3, Ga., community Bldg. addn., **Miss.** 22-212-F. $11,689. **FWA.**

†Mont., Gallatin-Gateway—Pub. Housing Auth., NHA, Skinner Bldg., 5 Ave. and Union St., Seattle, 1, Wash., 25 unit family stop gap housing, Mont. 24035.

†Neb., McCook—Pub. Housing Auth., NHA, 201 N. Wells St., Chicago, 6, Ill., plans by L. A. Daly, Insurance Bldg., Omaha, 100 unit family dwellings, administration bldg. CD 7/19—ENR 7/27.

†Nev., Hawthorne—Pub. Housing Auth., NHA, 785 Market St., San Francisco, Calif., 40 unit family stop-gap housing, Nev. 26166.

†Nev., Las Vegas—Basic Magnesium, Inc., Las Vegas, research foundry. $350,000. Defense Plant Corp. allocated funds to enable production of castings, forgings, alloys, extrusions, etc.

†O., Akron—Pub. Housing Auth., NHA, 2073 E. 9 St., Cleveland, Zone 15, 100 unit temporary family dwellings, Ohio 33299.

†O., Toledo—Pub. Housing Auth., NHA, 2073 E. 9 St., Cleveland, 15, 150 unit trailer housing, Ohio 33296. Project suspended. Britsch & Munger, Nicholas Bldg., archts. CD 7/5—ENR 7/13.

Ore., Oregon City—Clackmas Co., Court House, old people's home. $200,000. May vote bonds Nov. 7.

★**†Tennessee**—Brimstone Coal Corp., Columbus, O., plant expansion, Scott Co. $680,000. Defense Plant Corp. will finance.

Tenn., Knoxville—City, G. Dempster, mgr., plans by F. T. Manley, Jr., Empire Bldg., addn. General Hospital and nurses' home. $150,000-$200,000. Applied to **FWA.** CD 6/23—ENR 6/29.

†Tex., Freeport—U. S. Eng., 25 St. and Avenue F, Galveston, warehouse, radio bldg., 2 targets, 2 mi. access roads, excav., Sol. 41-243-45-C13. Over $25,000.

†Tex., Laredo—U. S. Eng., Fort Sam Houston, addnl. parachute unit. $40,000.

†Tex., McGregor—Pub. Housing Auth., NHA, 1205 Electric Bldg., 7 and Taylor Sts., Fort Worth, Zone 2, 125 family portable shelter units, Tex. 41662.

†Va., Dahlgren—Pub. Housing Auth., NHA, Georgia Savings Bank Bldg., Peachtree and Broad Sts., Atlanta, 3, Ga., 65 unit family stop-gap housing, Va. 44325.

†Va., Franklin—Pub. Housing Auth., NHA, Georgia Savings Bank Bldg., Peachtree and Broad Sts., Atlanta, 3, Ga., 35 unit family stop-gap housing, Va. 44323; 40 unit family stop-gap housing, Va. 44324.

†Wash., Forks—Pub. Housing Auth., NHA, Skinner Bldg., 5 Ave. and Union St., Zone 1, Seattle, plans by V. N. Jones, Republic Bldg., Seattle, Zone 1, 20 unit family housing, Wash. 45271. CD 8/30—ENR 9/7.

†Wis., Racine-Kenosha — Pub. Housing Auth., NHA, 201 N. Wells St., Chicago, 6, Ill., 160 unit single housing, Wis. 47082.

†Alaska, Hoonah—Pub. Housing Auth., NHA, Skinner Bldg., 5 Ave. and Union St., Seattle, 1, Wash., 80 unit family dwellings, Alaska 50080.

Alta., Banff—Municipality, plans by E. J. Turcotte, 1010 E. Ste. Catherine St., Montreal, Que., Mineral Springs Hospital. $150,000.

N. B., Moncton—Wartime Housing, Ltd., 55 York St., Toronto, Ont., 100 addnl. houses. $350,000.

N. B., Sackville—School Comn., Town Hall, high school. $150,000.

N. B., St. Quentin — Province of New Brunswick, Fredericton, transformer bldg. $40,000. N. B. Electric Power Comn., Saint John, engr.

★**Ont., Fort William**—Fort William General Hospital, Fort William, 6 or 7 story, bsmnt., south wing hospital addn., on block bounded by Ridgeway, Vickers, Arthur and Archibald Sts. $2,000,000. Govan, Ferguson & Lindsay, 515 Jarvis St., Toronto, archts.

Ont., New Toronto (Postal Dist. Toronto)—Municipality, housing, 12 acre site between Dwight Ave. and 1 St. $150,000.

Ont., Niagara Falls—Wartime Housing, Ltd., 55 York St., Toronto, 100 addnl. houses. $350,000.

Ont., Toronto—Wartime Housing, Ltd., 55 York St., 100 less permanent type houses. $2,400 each.

Sask., Saskatoon—Dpt. P. Wks., Ottawa, Ont., plans by C. D. Sutherland, c/o owner, crop laboratory near University. $200,000.

BIDS ASKED

Bids Asked In September

†Kan., Kansas City—Providence Hospital, c/o Sisters of Charity and Mother Superior, 18 St., NW corner Barnett Ave., Kansas City, Kan., hospital addn., Kan. 14-148. $275,000. **FWA.** Carroll & Dean, R. A. Long Bldg., Kansas City, Mo., archts. CD 8/25—ENR 8/31.

Bids Asked After September 15

†D. C., Wash.—Pub. Housing Auth., NHA, Longfellow Bldg., 1201 Connecticut Ave. N.W., 440 permanent family dwelling units, D. C. 1-13, for National Capitol Housing Auth., 1737 L St. N.W. Saarinen & Swanson, 2017 S. St. N.W., archts. CD 8/23—ENR 8/31.

†Ga., Marietta—Pub. Bldgs. Admin., 18 and F Sts. N.W., Wash., 25, D. C., school. R. R. Nash, Mozley Bldg., archt. CD 7/18—ENR 7/20.

Bids Asked September 18

Ont., Toronto—K. S. Gilies, comr. Bldgs., City Hall, nurses residence addn., at Toronto, East General Hospital, for Municipality.

Bids Asked September 19

†Va., Newport News—J. H. Saunders, supt. Schools at School Board's Offices, Dunbar School addn., Va. 44-403. $109,800 **FWA.** Plans deposit $25. Williams, Coile & Pipino, 408 Melson Bldg., archts.

Bids Asked September 20

†Mich., Royal Oak—Pub. Housing Auth., NHA, 2073 E. 9 St., Cleveland, 15, O., 475 unit temporary family dwellings, Mich. 20226. Plans deposit $25. Bids 6/15 rejected. O. Winn & P. Brezner, 220 Bagley St., Detroit, archts. CD 6/30—ENR 7/6, under LB.

Bids Asked About September 20

Ont., Wingham—L. G. Bridgeman, archt., Royal Bank Bldg., London, 3 story, 50x60 ft. brick, steel, concrete hospital addn., for Wingham Hospital Bd., R. H. Lloyd, chn., Wingham. $150,000.

Bids Asked September 21

†Conn., Groton—Federal Works Agency, 101 Park Ave., New York, N. Y., 1 story, BLIC BLDGS. (Bids Asked, Cont'd.)

ft., cinder block Fort Hill School, n. 6-229-F. $30,000. Extended date. ns deposit $15. L. F. Caproni, 1221 Chapel New Haven, archt. CD 8/29—ENR 1.

Mass., Fall River—Federal Works Agency, Chauncy St., Boston, altering for nurses mitory, St. Ann's Hospital, Middle St. ,000. **FWA.** E. M. Corbett, 49 Purchase archt.

Que., Ste. Anne de Bellevue—Secy. Dpt. Wks., Ottawa, Ont., administration bldg. Ste. Anne's Hospital (military). $175,000. ns deposit $25. C. D. Sutherland, c/o P. Wks., Ottawa, Ont., archt. CD 8/14.

Bids Asked September 22

Tex., Eagle Pass—Eagle Pass Public hools, Eagle Pass, high school. Plans deit $25. C. H. Page & Son, Enfield-Gracy g., Austin, archts. CD 8/25—ENR 8/31.

†Tex., Orange—Jr. High School Bd., 13 d Green Ave., 16 prefabricated school bldg. its, Tex. 41-687-CF. $210,000. **FWA.** ns deposit $25. Hedrick & Lindsay, 811 uthern Standard Bldg., Houston, archts. 8/24—ENR 8/31.

Bids Asked September 25

†Mich., Royal Oak—Pub. Housing Auth., HA, 2078 E. 9 St., Cleveland, 15, O., hool for housing, Mich. 20-363-F. Plans posit $25. E. Smith, 13700 Woodward e., Detroit, archt. CD 7/18—ENR 7/20.

Bids Asked September 27

†Mass., Taunton—Morton Hospital, 88 ashington St., hospital addn. and alteran for nurses home, Mass. 19-205-N. $20,000. WA. Howe & Prout, 1016 Turks Head dg., Providence, R. I., archts. CD 7/27—NR 8/3.

Bids Asked September 28

†Washington—Bureau Reclamation, Yaka, four 4 room residences at Wasteways 5 and 6, and at turbine lateral, mile 67, akima Ridge Canal, Roza Div., Yakima oject, Spec. 1766-D. W. R. Young, acting engr.

Bids Asked About September 29

†Va., Newport News—Helen Buxton Traing School for Nurses, Inc., Newport News, ormitory, Va. 44-354-F. **FWA.** Williams, bile & Pipino, 408 Melson Bldg., archts. D 5/18—ENR 5/25.

Bids Asked October 2

†Wash., Forks—Pub. Housing Auth., NHA, kinner Bldg., 5 Ave. and Union St., Zone 1, eattle, 20 unit family housing, Wash. 45271. N. Jones, Republic Bldg., Seattle, Zone 1, rcht. CD 9/7—ENR 9/14.

Bids Asked After October 2

†D. C., Anacostia—Pub. Housing Auth., HA, Longfellow Bldg., 1201 Connecticut ve. N.W., Wash., Zone 25, 300 family welling units, commercial bldg., power lant, D. C. 1-6, for National Capitol Housg Auth., 1737 L St. N.W., Wash. L. K. ahn, Bulletin Bldg., Phila. Pa., archt. D 2/28—ENR 3/2.

Bids Asked October 4

★ **Pa., Norristown**—Dpt. Welfare, c/o Dpt. Property & Supplies, Capitol Bldg., Harsburg, Ward Bldg. 51, at Norristown State ospital. $800,000. Extended date. Howell, ewis & Shay, Packard Bldg., Phila., archts. D 9/5—ENR 9/7.

Bids Asked October 10

†N. J., Lyons—Veterans Admin., Vermont ve. between H and I Sts. N.W., Wash., 25, C., Storehouse Bldg. 13 addn., Project 25.

Bids Asked October 15

★ **† Va., Martinsville**—Martinsville General Hospital, Inc., Martinsville, 3 story hosital, 2 story nurses home, masonry, Va. -370. $622,000. **FWA.** A. M. Lublin, ickson Bldg., Norfolk, archt. CD 9/6—NR 9/7.

Bids Asked

†Mass., East Boston (sta. Boston)—U. S. ng., 31 St. James Ave., Boston. (selected t bidders), bldg. alterations, No. 19-023--NEG 31. $6,000.

OW BIDDERS

†Ala., Tuskegee — Tuskegee Institute, uskegee, Aug. 28, 51 bed hospital addn. to ohn Allen Andrew Memorial Hospital, Ala. -277-NF, from R. P. Farnsworth & Co., 515 S. Saicedo St., New Orleans, La. **$279,000.** CD 8/16.

†Calif., Los Angeles—Pub. Housing Auth., HA, 785 Market St., San Francisco, Sept. 5, 0 portable dwelling units, Calif. 4876, 175 nits, Calif. 4887, and 125 units, Calif. 4888 formerly Calif. 4877, 4878 and 4879 respecively), Wilmington, from R. E. Campbell, 6 E. Weber St., Compton, **$245,742**; A. onaco, 3021 Waverly Dr. and Matcham & eitschmidt, 417 S. Hill St., archts.; 500 ortable dwelling units, community bldg., alif. 4875 (formerly Calif. 4876), from J. K. homas & Beyer Constr. Co., Chamber of ommerce Bldg., **$226,932,** Risley & Gould, 220 S. Westmoreland Ave., archts., for City of Los Angeles Housing Auth., 1401 E. First St. Bids 9/5. CD 7/6—ENR 7/13.

†Calif., San Diego—Pub. Housing Auth., NHA, 2100 Linda Vista Rd., Sept. 6, soil erosion control, Calif. 4782, from J. W. Brem, 4850 Del Monte St., Ocean Beach, **$66,750.**

★ **†Calif., Terminal Island**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., barracks, etc., NOY 9916, from W. C. Smith, 411 W. 5 St., Los Angeles, **$545,795.**

†Ill., Chicago—Little Co. of Mary Hospital, 95 St. and California Ave., Aug. 28, 2 story, cadet nurses home, brick, rein.-con. Evergreen Park, from Patrick Warren Co., 228 N. La Salle St., **$218,500. FWA.** CD 8/22—ENR 7/13.

†Ind., Indianapolis—Bd. Trustees. Indiana University, Students Union Bldg., Bloomington, Sept. 1, 2 story, bsmnt., 43x150 ft., rein.-con., structural steel nurses home, Medical Center, Ind. 12-135N, from Service Constr. Co., 417 Castle Hall Bldg., **$172,996. FWA.** CD 8/1—ENR 8/3.

†Md., Camp Holabird (sta. Baltimore)—U. S. Eng., Standard Oil Bldg., Baltimore, film storage vaults, from Consolidated Engr. Co., 20 E. Franklin St., Baltimore, **$78,700.** CD 8/22—ENR 8/24.

†Mass., Watertown (br. Boston)—U. S. Eng., 31 St. James Ave., Boston, Aug. 29, 2 machine tool storage bldgs. at Watertown Arsenal, from John Bowen Co., 129 Newbury St., Boston, **$53,600.** (Correction—low bidder). CD 9/5—ENR 9/7, under LB.

†Va., Dahlgren — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., Aug. 26, shell fragmentation bldg., at Naval Proving Ground, NOY 9564, from Jeffress-Dyer Inc., 1741 K St. N.W., Wash. 25, D. C., **$61,927.** CD 8/16.

†Va., Newport News—City, Aug. 28, jail and administration bldg. addn., Va. 44-129, from Laburnum Constr. Corp., 918 E. Main St., Richmond, **$167,300.** CD 8/16.

Wis., Oshkosh—City, R. Kliss, clk., Aug. 28, general contract 1 and 2 story, 80 x 250 ft., and 25 x 114 ft. wing, brick, rein.-con. warehouse and garage, from E. H. Meyer Const. Co., 75 Main St., **$105,998.** CD 8/18.

CONTRACTS AWARDED

†Ala., Talladega—U. S. Eng., Grant St. west of Westwood St., Mobile, addnl. construction, incl. outside utilities, Coosa River Ordnance Plant, Contr. W-01-076-eng-753, to Algernon Blair, First National Bank Bldg., Montgomery, **$130,000.**

†Calif., Camp Joseph H. Pendleton (br. Oceanside)—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., A. B. huts and paving, NOY 10683, to Haddock Engineers, Ltd., P. O. Box 479, Oceanside.

★ **†Calif., Fallbrook**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., addnl. magazines at Naval Ammunition Depot, Spec. 14172, NOY 9670, to Shannahan Bros., 6193 Maywood Ave., Huntington Park, **$1,191,582.** Bids 8/28, awarded 9/1. CD 8/31—ENR 9/7, under LB.

†Calif., Herlong—U. S. Eng., 1209 8 St., Sacramento, Zone 8, firewalls, floors and railroad crossover, Sierra Ordnance Depot, near here, Contr. W-04-167-eng-617, to L. F. Dow Co., 8465 Melrose Ave., Los Angeles, **$270,599.**

†Calif., Treasure Island—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., heating plant addn., NOY 9983, to W. S. Leland, 55 New Montgomery St., San Francisco, **$85,283.**

†Fla., Palm Beach—U. S. Eng., 575 Riverside Ave., Jacksonville, Zone 2, converting for civilian use Breakers Hotel formerly used as hospital, Contr. W-08-123-Eng.-519, to John B. Orr, Inc., 25 N. E. 20 St., Miami, Zone 2, and A. Orr, Jr., 218 N. E. 6 St., Miami. Zone 21, **$270,000.** Awarded 8/25.

Ga., La Grange—City Bd. Educ., high school, to W. R. Cooper, Columbus, **$444,983.** Bids 7/26. CD 7/31—ENR 8/3, under LB.

†Ind., Charlestown—U. S. Eng., 612 Federal Bldg., Louisville, Ky., addnl. bldgs., Hoosier Ordnance Plant Contr. W-15-029-eng-733, to Struck Constr. Co., 147 N. Clay St., Louisville, Ky., **$134,200.**

★ **†Kan., Topeka**—Defense Plant Corp., 811 Vermont Ave. N.W., Wash. 25, D. C., tire plant to J. A. Johnson Constr. Co., 266 41 St., Brooklyn, N. Y., **$4,500,000.** Goodyear Tire & Rubber Co., 1144 E. Market St., Akron, O., will operate. CD 8/25—ENR 7/27.

†Md., Indian Head—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., bldg. for examination of rocket powder grains, Naval Powder Factory, NOY 9934, to Mitchell & Zerkel, 1343 New Hampshire Ave. N.W., Wash., D. C., **$122,368.** Bids 9/2. CD 8/25.

Mich., Inkster—Inkster Dist. school, 2 story, brick, steel, rein.-con. school, to De Mare Bros., 6341 Lyndon Ave., Detroit. Est. **$150,000.** Jensen & Keough, 15875 Jas. Couzens Hy., Detroit, archts.

Mo., Normandy (br. St. Louis)—Normandy Consolidated School Dist., c/o Bd. Educ., F. B. Miller, supt., 6701 Easton Ave., Normandy, St. Louis, Zone 21, 1 story, bsmnt., 122x136 ft. and 54x84 ft., rubble stone, concrete motorbus garage, shops and boiler plant, to Geo. L. Cousins Contg. Co., 875 N. Skinker Blvd., St. Louis, 12, **$62,800.** CD 8/17.

†Mont., Fort Peck—U. S. Eng., Fort Peck, substation addn., etc., Contr. W-24-016-eng-47, to A. S. Schulman Electric Co., 537. S. Dearborn St., Chicago, Ill., **$43,923.**

★ **†Pa., Farrell**—Pub. Housing Auth., NHA, 270 Bway., New York 7, N. Y., 150 unit family dwellings, Pa. 20-1, to Haris Const. Corp., 26 Court St., Brooklyn 2, N. Y., **$649,128.** Bids 8/22. CD 8/25—ENR 8/31, under LB.

†S. C., Charleston—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., Mark 8 depth charge testing bldg. and boiler house, Naval Ammunition Depot, NOY 9316, to Espy Paving & Constr. Co., 108 E. Bay St., Savannah, Ga., **$55,847.**

†S. C., Charleston—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., recreation bldg., Naval Hospital, NOY 9373, to Simons-Mayrant Co., 16 Broad St., **$156,113.** Bids 8/25.

S. C., Orangeburg—State Colored Normal, Industrial, Agricultural and Mechanical College of South Carolina, Dr. M. F. Whitaker, pres., Orangeburg, new boilers, accessories, connections to existing central heating sys. with new chimney and boiler house, to W. B. Guimarin & Co., 1412 Taylor St., Columbia, and C. G. Shockley, 1325 Main St., Columbia, **$40,253.** Bids 8/29. CD 8/1—ENR 8/3.

★ **†Wash., Bangor**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., industrial and personnel bldgs. and services, U. S. Naval Magazine, Spec. 14758, NOY 10346, to Lease & Leigland & Kuney Johnson Co., Vance Bldg., Seattle, Zone 1, **$2,681,122.** Bids 8/10. CD 8/15, under LB.

B. C., Vancouver—Secy. Dpt. P. Wks., Ottawa, Ont., Shaughnessy Military Hospital addn., 30 Ave. and Laurel St., to E. H. Shockley, 5611 Elm St., about **$475,000.** CD 8/25—ENR 8/31.

Ont., London—Wartime Housing Ltd., 55 York St., Toronto, 50 houses, to Russell Constr. Co., Ltd., 501 Harbour Comm. Bldg., Toronto, about **$160,000.** CD 8/15.

COMMERCIAL BUILDINGS

PROPOSED WORK

Calif., Los Angeles—Rodeo Corp., c/o H. Gibbs, 441 E. First St., Long Beach, 80 unit frame, stucco apartment bldgs. $250,000.

Ky., Louisville—St. Joseph Infirmary, Preston and Eastern Pkway., hospital addn. $268,225.

Tex., Houston—L. P. McKenzie, 2211 Barbee St., 2 story, brick, rein.-con. apartment units. $150,000.

Wis., Milwaukee—St. Benedict the Moor Mission, 1022 W. 10 St., plans by E. Brielmaier & Sons Co., 735 N. Water St., Zone 2, hospital addn. $200,000.

N. B., St. Bastile—Reverend Sisters of St. Joseph, St. Bastile, plans by Beaule & Morissette, 21 d'Aiguillon St., Quebec City, sanitorium. $400,000.

N. B., St. John—Committee of Canadian Jewish Congress, c/o A. I. Garson, St. John, home for aged jews of maritime provinces. $150,000.

North West Territory, Yellowknife—Victor Ingraham, Yellowknife, large hotel addn. $150,000.

Ont., Oshawa—H. J. Smith, archt., 62 Charles St., E. Toronto, soon lets contract nurses' home for Oshawa General Hospital Bd., T. K. Creighton, K. C., chn. $150,000.

Ont., Ottawa — Campaigne Com., Alex Betcherman, Beechwood Ave., **synagogue** and community centre. $400,000.

Ont., Ottawa—Ottawa Cinema, Ltd., c/o Twentieth Century Theatres, H. S. Mandell, interested, 110 Bond St., Toronto, theatre, on 80x190 ft. site, Queen St. $200,000.

Ont., Windsor—B. H. Yuffy, Guaranty Bldg., theatre, Ottawa St. at Gladstone Ave. $175,000.

Que., Hull—Avalon Hotel, Ltd., c/o S. Rene Ouellette, Chelsea Rd., Chelsea, hotel. $150,000.

★ **Que., Montreal**—Bd. Administration Jewish General Hospital, A. Bronfman, chn., Cote des Neiges Rd., sketches by J. C. McDougall, 1235 McGill Ave., nurses' home and training school, exten. out-patients dpt., rear wing for new laboratories, private patient bldg., etc. $1,500,000.

★ **Que., Montreal**—Homeopathic Hospital, 2100 Marlowe Ave., plans completed by G. D. Thompson, 2049 McGill College Ave., hospital addn. $500,000.

Que., Montreal—Jewish Public Library Bd., 4099 Esplanade Ave., plans by C. D. Good-

COMMERCIAL BLDGS. (Proposed Work, Cont'd.)

man, 1502 W. Ste. Catherine St., 3 story, 100x100 ft., concrete library, concrete fdn. $150,000.

Que., Montreal—St. Mary's Hospital Bd., 2830 Lacombe Ave., plans by E. J. Turcotte, 1010 E. Ste. Catherine St., nurses home. $150,000.

★**Que., Quebec City**—Rev. Sisters of St. Francois D'Assisi, 455 1st Ave., plans by G. F. Caron, 142 St. John St., hospital exten. $600,000.

Que., Quebec City—Roman Catholic Parish of St. Charles Garnier, c/o Rev. Alphonse Morel, P.P., Sillery, church and presbytery. $150,000.

Que., Ste. Flore—R. C. Parish of Ste. Flore, c/o Rev. E. Brunel, St. Flore, church and presbytery. $150,000.

Que., St. Romuald—Order of Christian Brothers, Pointe du Lac, college, $150,000.

BIDS ASKED

Bids Asked After September 15

Tex., Dallas—Parkcrest, Inc., Mercantile Bank Bldg., six 2 story apartment bldgs. $245,000. CD 6/22—ENR 6/29.

Bids Asked

★**O., Painesville**—West Walnut Estates, Inc., c/o Eastern States Homes, Inc., A. Holzer, vice pres., 22 W. 48 St., New York 19, N. Y., 120 brick, frame single family dwellings. $600,000. J. W. Everhard, 9219 Clifton Rd., Cleveland, archt.

LOW BIDDERS

Calif., Pasadena—California Institute of Technology, California and Hill Sts., 5 story, rein.-con. mechanical engineering laboratory bldg., from R. Gerhart, 334 S. Greenwood St., approx. **$200,000.**

CONTRACTS AWARDED

Calif., Burbank—Glen Oaks Builders, Inc., 4015 Jefferson Blvd., Los Angles, 28 four unit apartment bldg., frame, stucco, Glenoaks Blvd., Birmingham and Scott Rds. Owner builds. **$308,000.**

Calif., Glendale—Maple-Granada Corp., c/o R. M. Kennedy, archt., 1343 Highland Ave., six 56 unit frame, stucco apartment bldgs., 501-529 E. Maple St., to P. L. Burkhard, 1401 Irving Ave., approx. **$202,000.**

Calif., Los Angeles—Boulevard Homes, Inc., 453 S. Spring St., Los Angeles, 24 frame, stucco bldgs., Central Ave., 103 to 107 Sts., to Carpenter Contractors, Inc., 8617 4 Ave., Inglewood, approx. **$350,000.** P. R. Williams, 3757 Wilshire Blvd., archt.

Calif., San Pedro—Harlan Cross, Inc., 2508 Strand St., Manhattan Beach, 37 frame, stucco double dwellings. Owner builds. **$150,000.**

Me., **Augusta**—Augusta Homes, Inc., 185 Water St., three 2 story, bsmnt., 30 x 160 ft., frame apartments, concrete fdns., to Stewart & Williams, Inc., 185 Water St., **Est. $150,000.** Bunker & Savage, 256 Water St., archts.

★**Mo., Kansas City**—President Gardens Co., c/o Gentry & Voskamp, archts., 4 W. 13 St., Kansas City, Mo., 444 unit (36 bldgs.) apartments, 83 and Troost Sts., to Patti-MacDonald Constr. Co., 1114 Bway., Kansas City, Mo. Est. **$2,500,000.** FHA.

Pa., Butler—Baldwin Constr. Co., Rd. 10, Grove Rd., Pittsburgh, forty 1 story, 23x31 ft., brick veneer residences adjoining De-Shon Army Hospital, separate contracts. **$200,000.**

INDUSTRIAL BUILDINGS

PROPOSED WORK

Calif., San Diego—PLANT FUEL STORAGE FACILITIES—Consolidated Vultee Aircraft Corp., 3302 Pacific Hy., San Diego, standby fuel storage facilities at Plants 1 and 2. $73,800.

Conn., Bridgeport — PLANT — Whipple & Choate Co., L. L. Gross, pres., 934 South Ave., making plans foundry, Iranistan and South Aves. Over $40,000. Westcott & Mapes, Inc., 139 Orange St., New Haven, engr.

Conn., New Britain—PLANT—Connecticut Furriers, Inc., 87 W. Main St., 1 story, 65x187 ft., fur manufacturing and repairing plant, cold storage facilities. $50,000.

★**Ga., Atlanta—GLASS FACTORY—Owen-**Illinois Glass Co., Ohio Bank Bldg., Toledo, O., 1,289 x 2,405 ft. office bldg. and warehouse. $2,000,000.

Idaho, Pocatello — PLANT — Old Faithful Beverage Co., Pocatello, bottling plant. $40,000.

Ind., Bedford — PLANT—Travler-Karonola Radio Television Co., 4000 Madison St., Chicago, Ill., plant. $100,000, incl. equip.

★**Ky., Louisville—PLANT—Tube Turns, 224** E. Bway., new bldgs., equip. $3,042,125.

Ky., Midway—PLANT—Park & Tilford Distillers, Inc., Starks Bldg., Louisville, new bldgs., equip. $250,000.

Mass., Brighton (sta Boston)—PLANT— New England Rendering Co., Abattoir Grounds, revised plans glue bldg. addn., alterations. $60,000. Office Hollis French, 210 South St., Boston, engrs. • CD 8/29—ENR 8/31.

N. H., Manchester — FACTORY — Granite State Machine Co., Inc., 448 Silver St., plans by M. W. Corey, 875 Elm St., 1 story, brick, steel factory addn. $40,000.

N. J., Berkeley Heights—FACTORY—Man-ufacturers Chemical Co., Snyder Ave., Berkeley Heights, soon lets contract 1 story, masonry service wing. R. A. Theonig, 42 Belleville Ave., Bloomfield, archt. CD 7/31 —ENR 8/3.

N. J., Perth Amboy — PLANT — General Cable Corp., 26 Washington St., general interior and exterior alterations to plant bldgs., new bldgs., and 2 bldg. addns.

N. J., Phillipsburg—PLANT—Star Dollar Cleaners, 194 Irwin St., plans by R. Nixon, 36 Shafer Ave., 1 story, 50 x 130 ft., brick front, cement block cleaning and dyeing plant. $40,000.

★**N. Y., Batavia—PROCESSING PLANT —GLF Genesee Farm Products, Inc., c/o** Grange League Federation, Ithaca, food processing plant, Cedar St. and N. Y. C. R. R. $500,000 with equip.

O., Bellevue — ROUNDHOUSE—Cleveland, Cincinnati, Chicago & St. Louis Ry., F. J. Jerome, ch. engr., La Salle St. Sta., Chicago, Ill., soon lets contract 8 stall, brick, steel, concrete round house addn. $100,000.

Pa., Pittsburgh—LOADING PLATFORM, etc.—P. C. Dowler, archt., 803 Century Bldg., soon lets contract 25 ft. concrete loading platform, 4x65 ft. concrete retaining wall, 35x35 ft. concrete yard paving, for Beckwith Machinery Co., 6550 Hamilton Ave.

Pa., Temple — GRAIN ELEVATORS — Berks County Co-Operative Assn., C. S. Young, secy., installing 11 grain elevators. $75,000.

Tex., Arp—PLANT—Petroleum Dehydrating Co., Arp, soon lets contract tank bottom treating plant. Over $40,000. CD 8/23—ENR 8/31.

Tex., Cameron and Hallettville—FROZEN FOODS LOCKER PLANT—A. Henry, c/o Page, Southerland & Page, archts., Nalle Annex, Austin, soon lets contract frozen foods locker plants.

Tex., DeLeon—PLANT—Ross & Thiebaud, c/o Paul G. Bentley co. engr., 407 Burt Bldg., Dallas, soon lets contract face tile frozen food locker and processing plant. Plans deposit $25. Thos. D. Broad, Burt Bldg., Dallas, archt. CD 9/1—ENR 9/7.

Tex., Goldthwaite — FROZEN FOOD LOCKER AND PROCESSING PLANT—P. G. Bentley, engr., 407 Burt Bldg., Dallas, soon lets contract frozen food locker and processing plant, for County Locker Corp., Goldthwaite. $40,000. Plans deposit $25. CD 9/1—ENR 9/7.

Tex., Houston — WAREHOUSE — Capitol Wholesale & Liquor Co., 1682 Ingeborg St., plans by I. R. Klein, 328 Bankers Mtg. Bldg., warehouse. $40,000.

Tex., Houston — WAREHOUSE — International-Great Northern R. R. Co., C. S. Kirkpatrick, ch. engr., Union Station, warehouse. $40,000.

Tex., Houston—PLANT—Parker Uniform Factory, 412 Calhoun Rd., 1 story, brick, hollow tile, rein.-con. plant unit. $40,000.

Tex., Houston—PLANT—Republic Supply Corp., Petroleum Bldg., Houston, plant imprvs. Over $40,000.

Tex., Houston—PLANT—Robbins Monument Mfg. Co., 2714 Washington St., plant. $40,000.

★**Tex., Houston** — PLANT — Shell Oil Co., Inc., Shell Bldg., fluid catalytic high octane gasoline refining plant, at Deere Park. $11,000,000.

Tex., Mercedes—PACKING PLANT—Mer-cedes Citrus Growers Assn., Mercedes, 1 and 2 story citrus packing plant, brick, rein.-con. $40,000.

Tex., Mission—PLANT—The Pride O'Tex-as Citrus Assn., Mission, 1 and 2 story citrus packing plant units. $40,000.

Tex., San Antonio—ROUNDHOUSE—Southern Pacific Co., E. E. Mayo, ch. engr., 65 Market St., San Francisco, 5, Calif., roundhouse addn. $150,000.

Tex., San Juan—PACKING PLANT, etc.—Winn-Beckwith Co., San Juan, soon lets contract 1 and 2 story citrus packing and processing plant unit, brick, concrete, $40,000. CD 12/28—ENR 12/30.

★**Tex., San Saba—PLANT—San Saba Co.** Mineral Development Assn., c/o E. E. Fagg, San Saba, plant, etc. for mining oil shale. $5,000,000.

Wis., Florence—FACTORY—Frigo Bros. Cheese Corp., Iron Mountain, Mich., plans by L. A. Geniesse, 226 N. Washington St., Green Bay, 1 and 2 story, T-shaped, 110x120 ft., rein.-con., brick, new cheese factory (instead of addn.), concrete fdn. CD 6/14—ENR 6/15.

Wis., Milwaukee—FACTORY—P. J. Kansteiner Co., 1400 E. Park Pl., Zone 11, plans by A. H. Bauer, 759 N. Milwaukee St., Zone 2, 1 story, 72x140 ft., brick or concrete block, structural steel factory, concrete or block fdn.

Alta., Lethbridge—PLANT—Pacific Oi Refinery of Alberta Ltd., c/o W. P. Bla ert, secy., 3 bldg. and storage addns. $ 000.

B. C., Vancouver—PLANT—Canadian Companies, Ltd., Terminal Warehouse Bl Toronto, Ont., bulk storage plant. $50,

Man., Sarto—PLANT—Kraft Cheese L 40 Bates Rd., Outremont, cheese pl $40,000.

Newfoundland, Harbour Grace—PLAN W. & J. Moores, Carbonear, cold stor plant. $50,000.

Newfoundland, St. John's—HYDRO-EL TRIC PLANT—Newfoundland Light & Po Co., Ltd., St. John's, reconstructing hyd electric plant, Pierres Brook. $50,000.

North West Territory, Yellow Knif DIAMOND DRILLING—American Yello knife Exploration Co., Ltd., 10045 102 Edmonton, Alta., diamond drilling. $100, E. C. Mikkelsen, Clayton, Mo., U. S. engr.

North West Territory, Yellowknife POWER PLANT—Frobisher Exploration Ltd., 25 King St., Toronto, Ont., power pla on Lockhart River.

North West Territory, Yellowknife—MI ING DEVELOPMENT—Mercury Gold Min Ltd., 25 W. King St., Toronto, Ont., sh sinking, essential bldgs., etc. Over $50,000.

N. S., Dartmouth—REFINERY—Imper Oil Ltd., 56 Church St., Toronto, Ont., modeling refinery. $87,000.

Ontario—MINING DEVELOPMENT—Gl rock Gold Mines, Ltd., c/o W. B. McPhers 171 Yonge St., Toronto, mining develo ment, Northern Ontario. $100,000.

Ont., Aylmer—GASOLINE STATION, —Wheatley Petroleums, Ltd., c/o H. Wheatley, Port Stanley, gasoline and station. $40,000.

Ont., Barrie — PLANT — Barrie Tanni Ltd., Barrie, remodeling plant.

Ont.. Forest — PLANT — Lambton Fr Growers Cold Storage Co., Ltd., W. Gove lock, pres., Forest, plant addn. $50,000.

Ont., Larder Lake—DIAMOND DRILLI —Olivet Gold Mines, Ltd., c/o B. S. Buffam, engr., 67 Yonge St., Toronto, di mond drilling. $40,000.

Ont., London—FACTORY—Arthur Blasbe R.R. 6, factory for manufacturing field fen ing machines. $45,000.

Ont., London — PLANT — Craftools, Henry, owner, Weston St., 1 story, 60x1 ft., brick, concrete plant addn. $45,000.

Ont., London—FACTORY—London Roof Co., J. Milne, mgr., 1360 Trafalgar St., pr paring plants 80 x 150 ft. and 50 x 50 f frame factory addns. $40,000. CD 4/19.

Ont., Niagara Falls — PLANT — Canadi Cellucotton Products Co., Ltd., 431 Victor St., 4 story, bsmnt.. 75x100 ft. plant add $100,000.

Ont., Owen Sound—WAREHOUSE—Nor Grey Cheese Co-operative, Co., Ltd., Ow Sound, 2 story, warehouse, enlarging che making plant from 3 to 5 vats. $50,000.

★**Ont., Parmour**—DIAMOND DRILLING Porcupine Reef Gold Mines, Ltd., c Broulan Porcupine Mines, Ltd., 372 Bay Toronto, diamond drilling, 240 acres. To expenditure $500,000. Dr. W. F. Jam 1107 Montreal Trust Bldg., Toronto, engr.

Ont., Porcupine — MINING DEVELO MENT—Lakefield Porcupine Mines, Ltd., Yonge St., Toronto, shaft sinking, essent bldgs., ets. Over $50,000.

Ont., Porcupine — MINING DEVELO MENT—Orpit Mines, Ltd., 67 Yonge Toronto, shaft sinking, necessary bldgs., Over $50,000. E. K. Fockler, c/o own engr.

Ont., Preston—FACTORY—Kenneth Gr ham, 1034 Vine St., factory, King St. tween Bishop and Chestnut Sts. $45,000.

Ont., Red Lake—DIAMOND DRILLING Hasaga Gold Mines, Ltd., 25 W. King Toronto, diamond drilling, minimum 10,0 ft. $50,000.

Ont., Toronto—PLANT—Balboa Explor tions, Ltd., W. R. Salter, 112 Yonge mining development plant. $75,000.

Ont., Toronto—PLANT—Central Aircr **Mfg. Co. Ltd., c/o B. L.** Smith, 320 **St., mfg. and assembling plant.** $40,000.

★**Ont, Toronto—STORAGE**, etc.—de Hav **land Aircraft of Canada,** Ltd., She **pard Ave., making plans storage,** and oth **bldgs., addns., new roads and** aprons, **stalling sprinkler sys.,** etc. at plant. $50 **000. D. Shepherd, 57 Bloor** St. W., engr.

Ont., Toronto—PLANT—Gair Co. Canad **Ltd., 372 Bay St., plans by** Krumm & You **& Co., Ltd., 67 Yonge St., 1 story,** bsmnt **38x355 ft., 2 story, 26x183 ft., 1** story **31x398 ft. concrete, brick, steel** and **plant addns. $170,000.**

Ont., Toronto—FOUNDRY—Grinnell **of Canada, Ltd., 2440 Dundas** St., plans **Marani & Morris, 46 Bloor** St., 2 story **rein.-con. fdry. addn., 2440** Dundas St. **$55,000.**

Ont., Toronto — PLANT — Ontario Har **wood Products, Ltd.,** D. B. Goodman, Fe **eral Bldg., plant. $40,000.**

USTRIAL BLDGS. (Proposed Work, Cont'd.)

e., Ancienne Lorette (Postal Dist. ec City)—MILL—Co-operative Ancienne tte, Ancienne Lorette, grist mill, ware- , etc., La Suete Rd. $300,000.

e., Beauchastel—DIAMOND DRILL- —Leitch Gold Mines, Ltd., Beauchastel, ond drilling program. $85,000 avail-

e., Beauchastel—DIAMOND DRILLING akeko Mines, Ltd., Beauchastel, diamond ing. $85,500 appropriated.

e., Belleterre—DIAMOND DRILLING— terre Gold Mines, Ltd., Belleterre, dia- drilling. $40,000. J. P. Norrie, c/o r, engr.

e., Bourlamaque—MINING DEVELOP- T—Aumaque Gold Mines, Ltd., W. G. p, secy., 36 Toronto St., Toronto, Ont., t sinking, essential bldgs., extensive de- pment. $50,000.

e., Bourlamaque—MINING DEVELOP- T—Obaska Lake Mines, Ltd., 25 W. St., Toronto, Ont., shaft sinking, bldgs., $50,000.

e., Drummondville — PLANT — Drum- dville Cotton Co., Ltd., 710 Victoria Sq., treal, altering plant. $45,500.

e., Gifford (Quebec)—FACTORY—Sico t, Ltd., 39 1 Ave., Quebec City, plans by Pillion, 39 1 Ave., Quebec City, 1 story t factory. $50,000.

e., Grande Piles—PLANT—J. R. Bois- & Co. Ltd., Grande Piles, woodworking t exten., forging plant addn. $40,000.

e., Lac-au-Saumon—PLANT—Parame dworking & Lumber Co. Ltd., Lac-au- mon, general woodworking plant, plas- , etc. $40,000.

e., Malartic—MINING DEVELOPMENT ast Amphi Gold Mines, Ltd., 357 Bay Toronto, Ont., shaft sinking, bldgs., ex- ive developments. $50,000.

e., Montreal—PLANT—Seven-up Bot- g Co., Ltd., Graham Blvd., revised plans Luke & Little, 1410 Guy St., 3 story, 110 ft. bottling plant and 1 story, 110 x ft. plant addn. $125,000. CD 8/29—ENR

e., Nicolet — FACTORY — H. Vallieres , 7 Beaubien St., plans by J. W. Levas- , Nicolet, 2 story, 53x145 ft. factory. 000. CD 8/25—ENR 8/31.

e., Noranda—MINING DEVELOPMENT orbeau Gold Mines, Ltd., Noranda, ex- ive development, incl. bldgs., shaft sink- $50,000.

e., Quebec City—PLANT, etc.—Coca Co. of Canada, Ltd., 36 5 St., bottling t, warehouse. $100,000.

e., Rouyn—MINING DEVELOPMENT— etier Lake Mines, Ltd., 25 W. King St., onto, Ont., shaft sinking, bldgs., etc. 000.

e., Senneterre—DIAMOND DRILLING— ent Lake Mines, Ltd., Wigwam Island, tibi Co., diamond drilling. $50,000. W. Foote, M. E., c/o owner, engr.

e., Val d'Or—PLANT—Senneterre Peat Maso, Ltd., Val d'Or, fertilizer, mineral l, peat products, etc., mfg. plant. $50,000.

sk., Regina — STORAGE TANKS — Hi- y Refineries, Ltd., eight 10,000 to 20,000 storage tanks. $40,000.

S ASKED

Bids Asked September 18

. Y., New York—PLANT—Consolidated son Co., 130 E. 15 St., bldg. and storage d, Avenue C and 14 St.

a., Phila.—TRUCK TERMINAL—Associ- d Transport, Inc., c/o A. J. Carson, archt., Memorial Ave., West Springfield, Mass., story, 90x100 ft. steel, concrete truck minal, etc., G St. Over $40,000. CD —ENR 8/31.

Bids Asked September 19

N. Y., Bainbridge — FACTORY — Casein Co. of America, Div. of Borden Co., 350 dison Ave., New York, Zone 17, altering tory and new bldg. $545,000. Skidmore, ings & Merrill, 5 E. 57 St., New York, e 22, archts.

nt., Midland—STATION—H. A. Dixon, engr, Canadian National R. R., B. Wheel- ght, ch. engr. (Central Region), 360 Mc- St., Montreal, Que., station. Over 000. Plans deposit $50.

Bids Asked September 20

nt., Toronto — PLANT — A. G. Facey, ht., 991 Bay St., 6 story, bsmnt., 85x125 rein.-con., steel plant addn., concrete , for Colgate-Palmolive Peet, Ltd., 64 talie St. $400,000. E. A. Cross, 991 Bay engr.

Bids Asked September 23

ass., Charlestown (Sta. Boston)—FAC- RY, etc.—Davidson Rubber Co., 50 Brigh- St., 1 story, 35x77 ft., and 1 story, 55x150 brick, steel, concrete factory and office, 000. A. B. Reed, 88 Broad St., Boston, cht.

W BIDDERS

onn., Naugatuck—FACTORY—Naugatuck emical Div., U. S. Rubber Co., Elm St., nd 3 story, 57x103 ft., brick, steel FJF tory, from W. J. Megin, Inc., 51 Elm St. Est. **$80,000.** Francisco & Jacobus, 511 Fifth Ave., New York, archts. CD 8/31—ENR 9/7.

Tex., Cameron and **Hallettsville**—FROZEN FOODS LOCKER PLANTS—A. Henry, c/o Page, Southerland & Page, archts., Nalle Bldg. Annex, Austin, Sept. 8, frozen foods locker plants, from J. E. Ricks Constr. Co., 6208 Dallas Hys., Austin, **$40,264.** CD 9/6—ENR 9/14.

Tex., Fort Worth—WAREHOUSES—Consolidated-Vultee Aircraft Corp., Grants Lane, 2 warehouses, from R. F. Ball Constr. Co., Box 1451, **$396,000.** CD 8/30—ENR 9/7.

CONTRACTS AWARDED

★**Calif., Oakland**—PLANT—Alloychemical Corp., de Young Bldg., San Francisco, conversion Old Southern Pacific powerhouse, Fruitvale Ave. at Estuary into modern tartrate and tartaric mfg. plant., separate contracts. Est. **$750,000.** F. J. Stiral, Jr., de Young Bldg., San Francisco, company engr.

Calif., San Francisco — FOUNDRY—M. Greenburg & Sons, 765 Folsom St., foundry, N. W. Alice and Shipley Sts., separate contracts. J. Rosenwald, 525 Market St., engr.

Conn., Norwich—PLANT—United States Finishing Co., Greenville, Norwich, brick, steel, concrete boiler works, imprvs., alterations, etc., to A. Dierks & Co., Inc., 811 Union St., Brooklyn, N. Y. Est. **$50,000.** Westcott & Mapes, Inc., 139 Orange St., New Haven, engrs.

Mass., Westford—MANUFACTURING—Abbot Worsted Co., Graniteville (Westford), 2 story, bsmnt., 39x103 ft., concrete block mfg. bldg., concrete fdn., Forge Village, Westford, to Casper Ranger Constr. Co., 6 Newton St., Holyoke, approx. **$100,000.** Whitman & Howard, 89 Broad St., Boston, engrs.

Mass., Worcester—PLANT—Rice, Barton Corp., 65 Tainter St., 1 story, 42x152 ft., brick, steel, mfg. plant, concrete fdn., Tainter St., to E. J. Cross Co., 150 Prescott St., **$40,000.**

Mich., Detroit — PLANT — Midland Steel Products Co., 6460 Mt. Elliott Ave., brick, steel, concrete plant, to O. W. Burke Co., 1010 Fisher Bldg. Est. **$75,000.**

Minn., Minneapolis — GARAGE — Jefferson Transportation Co., E. F. Zelle, pres., 1114 Currie Ave., general contract 1 story, 50x142 ft., brick, tile garage addn., to C. F. Haglin & Sons, 700 National Bldg., **$40,000.**

N. J., Bloomfield—MAINTENANCE, etc.—Westinghouse Elec. & Mfg. Co., McArthur Ave., interior alterations for maintenance and storage bldgs., to Edw. M. Waldron, Inc., 40 Park Pl., Newark, **$45,000.**

N. J., Linden—STORAGE TANK—Standard Oil Co. of N. J., Bayway Refinery alcohol storage tank, 48 ft. high, 80 ft. diam., own forces. **$40,000.**

N. J., Lyndhurst—WAREHOUSE—A. R. Purdy Co., 790 Greenwich St., New York, N. Y., 156 x 240 ft. warehouse, to Geiger Engr. & Mfg. Co., 300 Burnet St., Union, **$50,000.**

N. J., Westfield—WAREHOUSE—Henry P. Townsend Storage Co., 241 North Ave., 3 story, brick, steel, concrete warehouse, to Neumann Const. Co., 45 Willow Grove Rd., **$51,000.** CD 8/21—ENR 8/24.

O., Conneaut—ROUNDHOUSE, etc.—Cleveland, Cincinnati, Chicago & St. Louis Ry., F. J. Jerome, ch. engr., La Salle St. Sta., Chicago, Ill., round house and machine shop addn., to Alger-Rau, Inc., 12434 Cedar Rd., Cleveland Heights. Est. **$175,000.** Bids 8/14. CD 8/14—ENR 8/17.

Pa., Harrisburg—RAILROAD BLDG. ADDITION—Pennsylvania R.R., G. L. Gressitt, ch. engr., Broad St. Station Bldg., 1617 Pennsylvania Blvd., Phila., Zone 4, 6x31 ft. penthouse top addn. to 3 story, brick railroad office, post office and bunk room bldg., etc., 441 and 443 Market St. to Murphy Quigley Co., 1518 Sansom St., **$118,000.** Awarded 9/7.

Pa., New Kensington — LABORATORY — Aluminum Co. of America, R. O. Keefer, purch. agt., 801 Gulf Bldg., Pittsburgh, 1 and 2 story, bsmnt., solid brick, modified T shape, steel, concrete research laboratory, to The Trimble Co., 1719 Pennsylvania Ave.

Tex., Deweyville—MILL—Newton County Lumber Co., Orange and Deweyville, lumber mill, force account, approx. **$40,000.**

Tex., Donna—WAREHOUSE—Knapp Sherrill Co., 331 S. 8 St., 1 story, brick, rein.-con., hollow tile warehouse, force account. **$40,000.** CD 8/16—ENR 8/24.

Tex., Houston—PLANT—Universal Packing & Gasket Co., 1212 Nance St., 1 story, hollow tile, concrete, steel plant unit, to T. D. Howe Constr. Co., 3210 White Oak St., approx. **$41,000.** CD 9/1—ENR 9/7.

Tex., McAllen — PACKING PLANT — McAllen Fruit & Vegetable Co., H. Etchison, pres., 1622 Highway, 2 story, 190 x 218 ft., brick, rein.-con. hollow tile, steel, etc. packing plant, to M. R. Nelson Co., 1310 Beaumont St., **$100,000.** CD 9/1—ENR 9/7.

Tex., San Antonio—PLANT—Alamo Pottery, Inc., Malone Ave. and Frio City Rd., pottery mfg. plant, to Baugh & Scott, 1107 Frost Bldg., **$60,000.** CD 6/2—ENR 6/8, under CA.

Tex., Tyler—PLANT—St. Louis Southwestern Ry. Co., W. S. Hanley, ch. engr., Cotton Belt Bldg., St. Louis, Mo., 40x523 ft. tomato packing plant, force account. **$65,000.** CD 4/19—ENR 4/27.

Wash., Olympia—WAREHOUSE—Olympia Brewing Co., Tumwater St., 120x125 ft. concrete block, steel truss, warehouse, to A. G. Homann, 112 N. Franklin St. Est. **$40,000.** J. H. Wohleb, Chambers Block, archt.

Wis., Appleton — GRAIN ELEVATOR — Liethen Grain Co., 113 N. Badger Ave., 5 story, 24x100 ft., laminated wood with steel frame grain elevator, to H. French, Edgerton. E. A. Wettengel, 116 S. Pierce Ave., archt. CD 6/20—ENR 6/22.

Wis., De Pere—BOILER HOUSE—Nicolet Paper Co., Main St., 2 story, 49x61 ft., brick, rein.-con. boiler house alterations, addn., to Baker Const. Co., Columbus Bldg., Green Bay. Feldhausen & Coughlen, Columbus Bldg., Green Bay, archts.

Wis., Green Bay — GARAGE — Foeller, Schober, Berners, Safford & Jahn, archts., 310 Pine St., 1 story, 60x203 ft., 1 story, 47x60 ft., concrete block, brick, steel garage addns., for Jones Transfer Line, 404 Henry St., to J. C. Basten, Green Bay. CD 8/23—ENR 8/31.

Alta., Edmonton—PLANT—Swift Canadian Co., Ltd., Edmonton, plant, to Poole Constr. Co., Ltd., 218 Tegler Bldg., **$174,000.**

B. C., Minto Mine—DIAMOND DRILLING—Minto Gold Mines, Ltd., 208 Pacific Bldg., Vancouver, diamond drilling, to Highway Constr. Co., Ltd., c/o owner. Est. **$90,000.** H. L. Hill, c/o owner, engr.

Man., St. Boniface — PLANT — Swift Canadian Co., Ltd., St. Boniface, curing and storage plant addn., to Claydon Co., Ltd., 290 Garry St., Winnipeg, about **$115,000.**

Que., Drummondville — SUBSTATION — Drummondville Cotton Co. Ltd., 710 Victoria Sq., Montreal, galvanized steel outdoor substation, at Textile Plant, Dorian St., own forces. **$50,000.**

Que., Montreal—DAIRY—Mile End Dairy Inc., 6336 St. Dominque St., dairy exten., to Vincent & Co., Inc., 4527 St. Denis St. Est. **$50,000.** C. Grenier, 4050 Kent Ave., archt. Archambault & Roy, 6278 1 Ave., engrs.

UNCLASSIFIED

PROPOSED WORK

Arkansas—RURAL ELECTRIC LINES—Arkansas Power & Light Co., Pine Bluff, 107 mi. exten. rural electric lines, Union Co. $80,177; 84 mi. exten. rural electric lines, Faulkner Co., $66,293.

★†**Calif. Fairfield** — RUNWAY EXTENSIONS, etc.—U. S. Eng., 1209 8 St., Sacramento, Zone 8, runway extens., parking apron, connecting taxiways, hard standings, etc., Fairfield-Suisun Army Airfield. $2,465,000.

Conn., Moosup—AIRPORT—Plainfield Airways, Inc., A. Magia, representative, 32 Prospect St., preliminary plans airport, landwork, runway and hangar.

Conn., Stratford--ATHLETIC FIELD—Raybestos Div. of Raybestos-Manhattan, Inc., 75 East Main St., making plans athletic field, incl. clearing 1 acre, grading, drainage, landscaping work.

Kan., Larned—AIRPORT—City, G. L. Frizell, mayor, $50,000 bond election Nov. 4, airport.

Louisiana — FARM CONNECTION ELECTRIC LINES, etc.—La-Claiborne Electric Refrig. Coop., Inc., Homer, farm connection electric lines $107,000, and refrigerator locker facilities, $25,000, Claiborne Co. REA allot.

Louisiana — FARM CONNECTION ELECTRIC LINES — Washington-Pointe Coupee Electric Membership Corp., New Roads, farm connection electric Lines, Washington Parish, $82,000. REA allot.

Minnesota — FARM CONNECTIONS — Dakota Co. Electric Cooperative, Farmington, farm connections to rural electric. distr. sys., and installing sub-station equip., Dakota Co. $100,000. REA allot.

Minnesota — RURAL ELECTRIFICATION SYSTEM—Wells Electric Assn., Wells, addnl. section rural electric distr. sys., Faribault Co. $25,000. REA allot.

Minn., Marshall—AIRPORT—City, H. N. Harmon, clk., special election to vote bond issue, municipal airport. Over $50,000. P. C. Bettenburg & Co., 1437 Marshall Ave., St. Paul, engrs. CD 8/25/43—ENR 9/2/43.

Missouri — POWER LINES — Nodaway-Worth Electric Co-op., Maryville, making plans exten. power lines to farms, Nodaway Co. $155,000. Frank Horton & Co., Lamar, engrs.

Missouri — TRACKAGE — Missouri Pacific R.R. Co., F. E. Bates, ch. engr., Missouri Pacific Bldg., St. Louis, Zone 3, construction and completion 3 mi. new trackage between Kirkwood and Valley Park, St. Louis Co. $367,000.

Missouri — TRANSMISSION LINES—Sac-Osage Electric Co-Operative, H. H. Cowan, UNCLASSIFIED (Proposed Work, Cont'd.)

pres., El Dorado Springs, soon lets contract 56 mi. transmission lines, Cedar Co. $50,000. Frank Horton & Co., Lamar, engrs.

Mo., Kansas City—HANGAR, etc.—City, K. K. King, dir., City Hall, soon lets contract 130x150 ft. hangar, on each end would be provision for 4 story shops and stockroom, on east side of bldg. will be 30x200 ft. office structure, at Municipal Air Terminal. $200,000. Mid-Continent Air Lines, Inc., lessee.

Neb., Lincoln—PARK IMPROVEMENTS—City, L. Martin, mayor, permanent miscellaneous imprvs. to city parks. $26,332.

†N. J., Newark—AIRFIELD TIE-DOWN RINGS—U. S. Eng., 120 Wall St., New York, 5, N. Y., constructing tie-down rings at Army Airfield. $29,000.

†N. C., Cherry Point (br. New Bern)—AIR STATION FACILITIES — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., architect-engineering services by Carr & J. E. Greiner Co., Durham, addnl. facilities, Atlantic and Bogue Fields.

O., Columbus — ENGINE and COALING FACILITIES—Baltimore & Ohio R.R. System, A. C. Clarke, ch. engr., Baltimore and Charles Sts., Baltimore, Md., re-arrangement engine and coaling facilities. $68,000.

★**Oklahoma and Kansas**—GAS PIPELINE—Cities Services Gas Co., Bartlesville, Okla., 52 mi. 16 in. pipeline from Shidler, Okla. to Caney, Kan. $525,000.

Oklahoma—GAS PIPELINE—Cities Service Transportation & Chemical Co., Bartlesville, 35 mi. 16 in. gas pipeline between Wynona and Blackwell. Over $100,000. F.P.C. considering application.

Pennsylvania—NATURAL GAS PIPELINE—United Natural Gas Co., Oil City, 37 mi. 12¾ in. natural gas pipeline from Ellwood City, Beaver Co. to Mineral compressor plant, Venango Co. $50,000.

†Tenn., Memphis—AIR TRAINING CENTER IMPROVEMENTS — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D.C., architect-engineering services by Hanker & Heyer, 1026 Commerce Title Bldg., imprvs. Naval Air Technical Training Center.

Texas—LOADING PLATFORMS—Missouri Pacific R.R. Co., F. E. Bates, ch. engr., Missouri Pacific Bldg., 13 and Olive Sts., St. Louis, 3, Mo., imprv. loading platforms in Rio Grande Valley. $94,950.

Tex., Palestine — AIRPORT IMPROVEMENTS—City, airport imprvs., incl. filling, leveling, erosion prevention of field, reconstruct taxi strip. $45,000. E. L. Killingsworth, Waco, engr. J. B. Early, Palestine, city engr.

Tex., Raymondville—DOCK FACILITIES—Willacy Co., Raymondville, dock facilities. $100,000.

Tex., Tyler—OIL PIPELINE—Phillips Petroleum Co., Esperson Bldg., Houston, crude oil (gathering) pipeline sys. $60,000.

†Va., Norfolk—AIR STATION—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., architect and engineering services by Giffels & Vallet, Inc., 1000 Marquette Bldg., Detroit, Mich., for plans, services and drawings, Naval Air Station.

†Wash., Bellingham—RUNWAY SURFACING—Whatcom Co., Courthouse, bituminous plant mix surface retopping concrete runways at airport. $150,000. CAA.

B. C., North Vancouver—WHARF—Ambrose P. Allison, North Vancouver, wharf in front of District Lot 266. $25,000.

Newfoundland, St. Johns — SEAPLANE BASE—Air Transport Ltd., St. Johns, seaplane base. $150,000.

Ont., Chatham—COAL DOCK—Pere Marquette Ry. Co., H. A. Cassil, ch. engr., General Motors Bldg., Detroit, Mich., combination coal dock and cinder pit with hoist, installing new tracks. Est. about $30,000.

Ont., Fort Francis—AIRPORT—Municipality, airport in Couchiching Indian Reserve. $150,000.

Que., Montreal—LIGHTING SYSTEM, etc.—Municipality, J. A. Mongeau, city clk., incandescent lighting sys., imprv. Marguerite Bourgeois Park. $30,000.

Que., Quebec City—RADIO STATION—Radio Canada Ltd., Chateau Frontenac, Quebec City, altering radio station. $40,000.

BIDS ASKED

Bids Asked September 21

★**N. Y., Idlewild**—RUNWAY PAVING—Dpt. Marine & Aviation, Pier A, North River, New York, paving 3 runways, 1st sect. Contr. 2309. $900,000. J. Downer, 30 Rockefeller Plaza, New York, Zone 20, engr.

Conn., East Hartford — EXPERIMENTAL HANGAR—Pratt & Whitney Div. United Aircraft Corp., 44 Main St., masonry, steel experimental hangar addn. Over $40,000. Albert Kahn Associated Architects & Engineers, Inc. 345 New Center Bldg., Detroit, Mich., engr.

†Mass., Fort Devens—FIRE PROTECTION—U. S. Eng., 31 St. James Ave., Boston (selected list bidders), fire protection, No. 19-023-45-NEG 30. $6,000.

†N. H., Portsmouth—LIGHTING—U. S. Eng., 31st St. James Ave., Boston, Mass., (selected list bidders), exten. lighting sys., No. 19-023-45-NEG 26. $18,000.

Tex., Bishop—PIPELINE CARRIER—Celanese Corp. of America, Bishop, (selected list bidders) 90 mi. 24 in. c.i. natural gas pipeline carrier. $275,000.

LOW BIDDERS

†Calif., Benicia—SPRINKLER PROTECTION—U. S. Eng., 74 New Montgomery St., San Francisco, installing sprinkler sys. protection on dock at Benicia Arsenal, Job No. 1731, from Grinnell Co. of the Pacific, 5 and Brannan Sts., San Francisco, **$74,406.**

†Calif., Daggett—SHOOTING-IN TARGET BUTT, etc.—U. S. Eng., 175 S. Figueroa St., Los Angeles, Zone 14, shooting-in target butt, appurtenances, No. 19, from J. A. Klarquist, 618 S. Western Ave., Los Angeles, **$39,904.**

Ill., Rock Island—PARKING AREA—Div. Waterways, 201 W. Monroe St., Springfield, concrete slab and riprap pavement mooring rings, along south bank Mississippi River, between 17 and 18 Sts., for parking area, from Collingnon Constr. Co., 910 Kahl Bldg., Davenport, Ia., **$64,780.** Bids 8/29. T. B. Casey, acting. ch. engr.

Mass., Southbridge — RUNWAYS — Town, Bd. Selectmen. Town Hall, Sept. 1, municipal airport runways, from G. E. Duteau, 90 Cloran St., Springfield. Est. **$90,000.** CD 8/25—ENR 7/20.

†N. Y., Mitchel Field (br. Hempstead)—LEAN-TO BLDG.—U. S. Eng., 120 Wall St., New York, Zone 5, Sept. 6, Lean-to Bldg. 5, from E. W. Jackson Contr. Co., Inc., 24 Kellum Pl., Hempstead, **$62,376.** CD 9/1.

Tex., College Station—WIND TUNNEL—Agricultural and Mechanical College, College Station, Aug. 31, wind tunnel, from McCann Constr. Co., 300 S. Main St., Fort Worth, **$51,293.** CD 8/1—ENR 8/3.

†Tex., Freeport—RANGE FACILITIES—U. S. Eng., 25 St. and Avenue F, Galveston, addnl. range facilities, incl. warehouse, radio bldg., 2 targets, 2 mi. access roads, excav., from Southern States Constr. Co., 203 San Jacinto National Bank Bldg., **$27,390.** CD 9/7, under Public Bldgs.

†Tex., Kelly Field (br. San Antonio)—AIR FILTERING SYSTEM—U. S. Eng., Fort Sam Houston, Sept. 1, installing air filtering sys. in engine overhaul bldg., Spec. 1151, from M. F. Fischer & Son, 1412 Milam Bldg., San Antonio, **$53,000.**

Wash., Seattle — PLAYGROUND AREA SURFACING—School Dist. 1, Seattle, Aug. 23, surfacing playground areas of 15 schools, from Northwest Precote, Inc., 7343 E. Marginal Way, **$36,379.**

CONTRACTS AWARDED

†Calif., El Centro—GUNNERY TRAINING FACILITIES—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., gunnery training facilities, Marine Corps Air Station, NOY 9868, to M. M. Sundt Constr. Co., Tucson, Ariz., **$264,155.** CD 8/7.

★**†Calif., Port Chicago**—CLASSIFICATION YARDS, etc.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., classification yard and lumber storage, Naval Magazines, NOY 9858, to Fredrickson & Watson Constr. Co., 873 81 Ave., Oakland, Zone 3, **$743,545.** CD 8/25—ENR 8/31, under LB.

★**†Calif., Port Chicago**—CLASSIFICATION YARD, etc.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., classification yard, barricaded sidings and services, NOY 10312, to MacDonald & Kahn, Inc., 200 Financial Center Bldg., San Francisco, **$1,336,068.** CD 8/25—ENR 8/31, under LB.

★**†Calif., San Diego**—AIR STATION IMPROVEMENTS—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., grading, paving landing mat and addnl. taxiways, Naval Air Station, NOY 10754, to Macco Constr. Co., 815 Paramount Blvd., Clearwater, **$3,406,790.** CD 8/24, under CA.

†Conn., Groton—PLANE PARKING AREA, etc.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave., N.W., Wash., 25, D. C., plane parking area and road surfacing, N.A.A.F., NOY 10542, to Campanella & Cardi. Constr. Co., 50 Sprague St., Providence, R. I., **$67,145.** CD 8/1.

†Florida—ELECTRICAL DISTRIBUTION SYSTEM—U. S. Eng., 575 Riverside Ave., Jacksonville, Zone 2, electrical distr. sys., at Buckingham Field in Lee Co., and in Drew and Macdill Fields in Hillsborough Co., Contr. W-08-123-Eng-522, to T. E. Johnson, DeLand, **$25,173.**

†Fla., Green Cove Springs — RUNWAY LIGHTING SYSTEM—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., runway lighting sys., Naval Auxiliary Air Station, NOY 10564, to J. R. Hime Electric Co., 376 S. Country Rd., Palm Beach, **$52,049.** CD 8/2.

†Fla., St. Petersburg—RUNWAY—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave., N.W., Wash., 25, D. C., exten. runways, airport, NOY 9644, to R. C. Hoffman Const. Co., P. O. Box 1101, Tampa, **$346,7** CD 7/21.

†Ga., Chatham Field (br. Savannah)—AIR-FIELD CLEARING, etc.—U. S. Eng., Post Office Bldg., clearing, grubbing, grading, paving, Contr. W-09-133-Eng-284, to Espy Paving & Constr. Co., 108 E. Bay St., Savannah, **$38,375.**

Iowa — POLE LINES — Plymouth Electric Co-operative Assn., Le Mars, 59 mi. pole lines, Plymouth Co., to Contracting & Material Co., Evanston, Ill., **$54,393.** Bids 8/31. CD 2/28—ENR 3/2.

Iowa—TRANSMISSION LINES—Harrison County Rural Electric Co-operative Assn., Woodbine, 50 mi. transmission lines, Harrison Co., to Cushing & Murfield, Woodbine, **$64,894.** Bids 8/30. CD 7/21—ENR 7/29.

Iowa — TRANSMISSION LINES — Lyon Rural Electric Co-operative Assn., Rock Rapids, 50 mi. transmission lines, Lyon Co., to Olds Electric Co., 1522 Washington St., Davenport, **$45,410.** Bids 8/15. CD 6/21—ENR 6/29.

†Kan., Hutchinson—LIGHTING SYSTEM—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., lighting sys. at municipal airport, to Sandford Const. Co., 509 S.W. 25 St., Oklahoma City, Okla., **$84,013.**

†Louisiana—LIGHTING SYSTEM—U. S. Eng., 25 St. and Avenue F, Galveston, Tex., outside night lighting sys. for Alvin Callender Airfield and area, Belle Chasse, to Industrial Electric, Inc., 3227 Magazine St., New Orleans, **$33,537.** Est. $25,000; Bids 9/1 CD 8/17.

†Md., Aberdeen Proving Ground—TARGETS—U. S. Eng., Standard Oil Bldg., Baltimore, targets. Contr. W-18-020-Eng-614, to Ritter Bros., 1511 N. Cameron St., Harrisburg, Pa., **$84,280.**

†N. J., Dover—RAILROAD ADDITIONS, etc.—U. S. Eng., 120 Wall St., New York, 5, N. Y., railroad addns., and black top roads at Picatinny Arsenal, to Industrial Engr. Co., 50 Church St., New York, N. Y., **$58,334,** CD 8/21—ENR 8/24.

†N. J., Wildwood — RUNWAY — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., exten. runway, Naval Air Station, NOY 9646, to Robert W. Cleveland & Co., 73 N. Park St., East Orange, **$65,031.**

†N. Y., Glens Falls—FLIGHT HAZARD REMOVAL—U. S. Eng., 120 Wall St., New York, Zone 5, removal flight hazards, to Grandview Co., 6 Grandview Ave., Mt. Vernon, **$35,450.** Bids 8/11. CD 8/7.

★**†N.C., Cherry Point (br. New Bern)**—AIR STATION BLDGS.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., barracks and messing facilities, Marine Corps. Air Station, NOY 10401, to H. L. Coble, Greensboro, **$1,570,** CD 8/31, under CA.

Okla., Forgan—PIPELINE—Natural Gas Pipe Line Co., Forgan, 8,000 lin. ft. 20 in. pipe for Cimarron River crossing, to C. S. Foreman Co., Forgan, **$33,600.**

†Ore., Astoria—WARM-UP APRON, etc.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., warm-up apron, bachelor officer's quarters, gunnery training bldg., Class C overhaul shop, Naval Air Station, NOY 10501, to A. Rudd, 324 Railway Exchange Bldg., Portland, Zone 4, **$383,511.**

†S. C., Charleston—DOCK—U. S. Eng., Post Office Bldg., Savannah, Ga., ordnance dock addns., alterations, at Port of Embarkation, CPE 6-45, to Wester Constr. Co., North Charleston, S. C., and Dixie Constr. Co., Oscilla, Ga., **$293,032.** Bids 8/23.

†Tex., Amarillo—PIPELINE—U. S. Bureau of Mines, Field Station, Denver, Colo., 43 mi. 2 in. i.d. pipe with 2⅜ in. wall thickness for operation with helium at 2,700 lb. pressure, to Connors & Fowler, Amarillo, approx. **$96,000.**

†Tex., McGregor — ELECTRIC LIGHTING SYSTEM—U. S. Eng., 25 St. and Avenue F, Galveston, outside electric lighting sys. for Ordnance (shell) Loading Plant lines, to Jas. T. Taylor & Son, 1st National Bank Bldg., Fort Worth. **$39,700.**

†Tex., Pyote—PARKING APRON—U. S. Eng., Albuquerque, N. M., addnl. parking apron, Contr. W-29-005-Eng-259, to Uvalde Constr. Co., Santa Fe Bldg., Dallas, **$220,6**

★**†Washington** — TRANSMISSION LINE, etc.—Bonneville Power Admin., L. C. Stewart, purch. officer, P. O. Box 3537, Portland, Ore., 53 mi. power line from Midway to Columbia, near Wenatchee, with substation at Columbia and addns. to Midway substation, force account. **$2,670,000.** CD 8/23—ENR 8/31.

†Wash., Pasco—AIR STATION BLDG.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., airplane parts warehouse, Naval Air Station, NOY 10356, to J. C. Boespflug Constr. Co., 807 Securities Bldg., Seattle, Zone 1, **$72,3**

Proposed Advertisements see p. 23